

SEQUENCE LISTING

<110> Reed, John C.
Godzik, Adam
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Fiorentino, Loredana
Ariza, Maria Eugenia
Stehlik, Christian

<120> PAAD Domain-Containing Polypeptides,
Encoding Nucleic Acids, and Methods of Use

<130> P-LJ 4816

<150> US 09/671,760

<151> 2000-09-26

<160> 64

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 76
<212> PRT
<213> Homo sapien

<400> 1
Leu Leu Glu Gln Leu Ser Gln Asp Glu Leu Ser Lys Phe Lys Tyr Leu
1 5 10 15
Ile Thr Thr Phe Ser Leu Ala His Glu Leu Gln Lys Ile Pro His Lys
20 25 30
Glu Val Asp Lys Ala Asp Gly Lys Gln Leu Val Glu Ile Leu Thr Thr
35 40 45
His Cys Asp Ser Tyr Trp Val Glu Met Ala Ser Leu Gln Val Phe Glu
50 55 60
Lys Met His Arg Met Asp Leu Ser Glu Arg Ala Lys
65 70 75

<210> 2
<211> 76
<212> PRT
<213> Homo sapien

<400> 2
Tyr Leu Glu Glu Leu Lys Lys Glu Glu Phe Arg Lys Phe Lys Glu His
1 5 10 15
Leu Lys Gln Met Thr Leu Gln Leu Glu Leu Lys Gln Ile Pro Trp Thr
20 25 30
Glu Val Lys Lys Ala Ser Arg Glu Glu Leu Ala Asn Leu Leu Ile Lys

35	40	45
His Tyr Glu Glu Gln Gln Ala Trp Asn Ile Thr Leu Arg Ile Phe Gln		
50	55	60
Lys Met Asp Arg Lys Asp Leu Cys Met Lys Val Met		
65	70	75

<210> 3
<211> 73
<212> PRT
<213> Homo sapien

<400> 3

Ala Leu Glu Glu Leu Ser Gln Glu Gln Leu Lys Arg Phe Arg His Lys		
1	5	10
Leu Arg Asp Val Gly Pro Asp Gly Arg Ser Ile Pro Trp Gly Arg Leu		
20	25	30
Glu Arg Ala Asp Ala Val Asp Leu Ala Glu Gln Leu Ala Gln Phe Tyr		
35	40	45
Gly Pro Glu Pro Ala Leu Glu Val Ala Arg Lys Thr Leu Lys Arg Ala		
50	55	60
Asp Ala Arg Asp Val Ala Ala Gln Leu		
65	70	

<210> 4
<211> 75
<212> PRT
<213> Homo sapien

<400> 4

Tyr Met Arg Asn Val Ser His Glu Glu Leu Gln Arg Phe Lys Gln Leu		
1	5	10
Leu Leu Thr Glu Leu Ser Thr Gly Thr Met Pro Ile Thr Trp Asp Gln		
20	25	30
Val Glu Thr Ala Ser Trp Ala Glu Val Val His Leu Leu Ile Glu Arg		
35	40	45
Phe Pro Gly Arg Arg Ala Trp Asp Val Thr Ser Asn Ile Phe Ala Ile		
50	55	60
Met Asn Cys Asp Lys Met Cys Val Val Val Arg		
65	70	75

<210> 5
<211> 76
<212> PRT
<213> Homo sapien

<400> 5

Ala Leu Ser Asp Leu Glu Glu Asn Asp Phe Lys Lys Leu Lys Phe Tyr		
1	5	10
Leu Arg Asp Met Thr Leu Ser Glu Gly Gln Pro Pro Leu Ala Arg Gly		
20	25	30

Glu Leu Glu Gly Leu Ile Pro Val Asp Leu Ala Glu Leu Leu Ile Ser
35 40 45
Lys Tyr Gly Glu Lys Glu Ala Val Lys Val Val Leu Lys Gly Leu Lys
50 55 60
Val Met Asn Leu Leu Glu Leu Val Asp Gln Leu Ser
65 70 75

<210> 6
<211> 75
<212> PRT
<213> Homo sapien

<400> 6
Tyr Leu Glu Glu Leu Glu Ala Val Glu Leu Lys Lys Phe Lys Leu Tyr
1 5 10 15
Leu Gly Thr Ala Thr Glu Leu Gly Glu Gly Lys Ile Pro Trp Gly Ser
20 25 30
Met Glu Lys Ala Gly Pro Leu Glu Met Ala Gln Leu Leu Ile Thr His
35 40 45
Phe Gly Pro Glu Glu Ala Trp Arg Leu Ala Leu Ser Thr Phe Glu Arg
50 55 60
Ile Asn Arg Lys Asp Leu Trp Glu Arg Gly Gln
65 70 75

<210> 7
<211> 76
<212> PRT
<213> Homo sapien

<400> 7
Thr Leu Glu Glu Leu Val Pro Tyr Asp Phe Glu Lys Phe Lys Phe Lys
1 5 10 15
Leu Gln Asn Thr Ser Val Gln Lys Glu His Ser Arg Ile Pro Arg Ser
20 25 30
Gln Ile Gln Arg Ala Arg Pro Val Lys Met Ala Thr Leu Leu Val Thr
35 40 45
Tyr Tyr Gly Glu Glu Tyr Ala Val Gln Leu Thr Leu Gln Val Leu Arg
50 55 60
Ala Ile Asn Gln Arg Leu Leu Ala Glu Leu His
65 70 75

<210> 8
<211> 71
<212> PRT
<213> Homo sapien

<400> 8
Tyr Leu Glu Asp Leu Glu Asp Val Asp Leu Lys Lys Phe Lys Met His
1 5 10 15
Leu Glu Asp Tyr Pro Pro Gln Lys Gly Cys Ile Pro Leu Pro Arg Gly

20	25	30
Gln Thr Glu Lys Ala Asp His Val Asp Leu Ala Thr Leu Met Ile Asp		
35	40	45
Phe Asn Gly Glu Lys Ala Trp Ala Met Val Val Trp Ile Phe Ala		
50	55	60
Ala Ile Asn Arg Arg Asp Leu		
65	70	

<210> 9
<211> 76
<212> PRT
<213> Homo sapien

<400> 9

Ala Leu Glu Asn Leu Thr Ala Glu Glu Leu Lys Lys Phe Lys Leu Lys			
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Leu Leu Ser Val Pro Leu Arg Glu Gly Tyr Gly Arg Ile Pro Arg Gly			
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Ala Leu Leu Pro Met Asp Ala Leu Asp Leu Thr Asp Lys Leu Val Ser			
35	40	45	
Phe Tyr Leu Glu Thr Tyr Gly Ala Glu Leu Thr Ala Asn Val Leu Arg			
50	55	60	
Asp Met Gly Leu Gln Glu Met Ala Gly Gln Leu Gln			
65	70	75	

<210> 10
<211> 76
<212> PRT
<213> Homo sapien

<400> 10

Val Leu Glu Asn Leu Thr Pro Glu Glu Leu Lys Lys Phe Lys Met Lys			
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Leu Gly Thr Val Pro Leu Arg Glu Gly Phe Glu Arg Ile Pro Arg Gly			
20	25	30	
Ala Leu Gly Gln Leu Asp Ile Val Asp Leu Thr Asp Lys Leu Val Ala			
35	40	45	
Ser Tyr Tyr Glu Asp Tyr Ala Ala Glu Leu Val Val Ala Val Leu Arg			
50	55	60	
Asp Met Arg Met Leu Glu Glu Ala Ala Arg Leu Gln			
65	70	75	

<210> 11
<211> 76
<212> PRT
<213> Homo sapien

<400> 11

Tyr Leu Glu Phe Leu Lys Lys Glu Glu Leu Lys Glu Phe Gln Leu Leu			
1	5	10	15

Leu Ala Asn Lys Ala His Ser Arg Ser Ser Ser Gly Glu Thr Pro Ala
20 25 30
Gln Pro Glu Lys Thr Ser Gly Met Glu Val Ala Ser Tyr Leu Val Ala
35 40 45
Gln Tyr Gly Glu Gln Arg Ala Trp Asp Leu Ala Leu His Thr Trp Glu
50 55 60
Gln Met Gly Leu Arg Ser Leu Cys Ala Gln Ala Gln
65 70 75

<210> 12
<211> 70
<212> PRT
<213> Homo sapien

<400> 12
Gly Leu Asp Asn Ile Thr Asp Glu Glu Leu Asp Arg Phe Lys Phe Phe
1 5 10 15
Leu Ser Asp Glu Phe Asn Ile Ala Thr Gly Lys Leu His Thr Ala Asn
20 25 30
Arg Ile Gln Val Ala Thr Leu Met Ile Gln Asn Ala Gly Ala Val Ser
35 40 45
Ala Val Met Lys Thr Ile Arg Ile Phe Gln Lys Leu Asn Tyr Met Leu
50 55 60
Leu Ala Lys Arg Leu Gln
65 70

<210> 13
<211> 71
<212> PRT
<213> Homo sapien

<400> 13
Gly Leu Glu Val Ile Asn Asp Tyr His Phe Arg Met Val Lys Ser Leu
1 5 10 15
Leu Ser Asn Asp Leu Lys Leu Asn Leu Lys Met Arg Glu Glu Tyr Asp
20 25 30
Lys Ile Gln Ile Ala Asp Leu Met Glu Glu Lys Phe Arg Gly Asp Ala
35 40 45
Gly Leu Gly Lys Leu Ile Lys Ile Phe Glu Asp Ile Pro Thr Leu Glu
50 55 60
Asp Leu Ala Glu Thr Leu Lys
65 70

<210> 14
<211> 70
<212> PRT
<213> Myxoma virus

<400> 14
Val Leu Glu Asn Leu Ser Asp Tyr Gln Phe Lys Met Phe Ile Tyr Leu

1	5	10	15												
Ala	Met	Glu	Asp	Leu	Tyr	Ile	Glu	Arg	Ala	Glu	Lys	Glu	Lys	Ile	Asp
20	25	30													
Arg	Ile	Asp	Leu	Ala	His	Lys	Ile	Ser	Glu	Gln	Tyr	Leu	Gly	Thr	Asp
35	40	45													
Tyr	Ile	Glu	Phe	Met	Lys	Arg	Val	Thr	Asp	Phe	Ile	Pro	Asn	Lys	Val
50	55	60													
Tyr	Val	Asp	Ser	Leu	Leu										
65	70														

<210> 15
<211> 2985
<212> DNA
<213> Homo sapien

<220>
<221> CDS
<222> (1) ... (2985)

<221> misc_feature
<222> (1) ... (1857)
<223> n = A,T,C or G

<400> 15
atg gca gcc tct ttc ttc tct gat ttt ggt ctt atg tgg tat ctg gag 48
Met Ala Ala Ser Phe Phe Ser Asp Phe Gly Leu Met Trp Tyr Leu Glu
1 5 10 15

gag ctc aaa aag gag gag ttc agg aaa ttt aaa gaa cat ctc aag caa 96
Glu Leu Lys Lys Glu Glu Phe Arg Lys Phe Lys Glu His Leu Lys Gln
20 25 30

atg act ttg cag ctt gaa ctc aag cag att ccc tgg act gag gtc aaa 144
Met Thr Leu Gln Leu Glu Leu Lys Gln Ile Pro Trp Thr Glu Val Lys
35 40 45

aaa gca tcc cgg gaa gaa ctt gca aac ctc ttg atc aag cac tat gaa 192
Lys Ala Ser Arg Glu Glu Leu Ala Asn Leu Leu Ile Lys His Tyr Glu
50 55 60

gaa caa caa gct tgg aac ata acc tta aga atc ttt caa aag atg gat 240
Glu Gln Gln Ala Trp Asn Ile Thr Leu Arg Ile Phe Gln Lys Met Asp
65 70 75 80

aga aag gat ctc tgc atg aag gtc atg agg gag aga aca gga tac aca 288
Arg Lys Asp Leu Cys Met Lys Val Met Arg Glu Arg Thr Gly Tyr Thr
85 90 95

aag acc tat caa gct cac gca aag cag aaa ttc agc cgc tta tgg tcc 336
Lys Thr Tyr Gln Ala His Ala Lys Gln Lys Phe Ser Arg Leu Trp Ser
100 105 110

agc aag tct gtc act gag att cac cta tac ttt gag gag gaa gtc aag	384		
Ser Lys Ser Val Thr Glu Ile His Leu Tyr Phe Glu Glu Val Lys			
115	120	125	
caa gaa gaa tgt gac cat ttg gac cgc ctt ttc gct ccc aag gaa act	432		
Gln Glu Glu Cys Asp His Leu Asp Arg Leu Phe Ala Pro Lys Glu Thr			
130	135	140	
ggg aaa cag cca cgt aca gtg att att caa gga cca caa gga att gga	480		
Gly Lys Gln Pro Arg Thr Val Ile Ile Gln Gly Pro Gln Gly Ile Gly			
145	150	155	160
aaa acg aca ctc ctg atg aag ctg atg atg gcc tgg tcg gac aac aag	528		
Lys Thr Thr Leu Leu Met Lys Leu Met Met Ala Trp Ser Asp Asn Lys			
165	170	175	
atc ttt ggg gat agg ttc ctg tac acg ttc tat ttc tgc tgc aga gaa	576		
Ile Phe Arg Asp Arg Phe Leu Tyr Thr Phe Tyr Phe Cys Cys Arg Glu			
180	185	190	
ctg agg gag ttg ccg cca acg agt ttg gct gac ttg att tcc aga gag	624		
Leu Arg Glu Leu Pro Pro Thr Ser Leu Ala Asp Leu Ile Ser Arg Glu			
195	200	205	
tgg cct gac ccc gct cct ata aca gag atc gtg tct caa ccg gag	672		
Trp Pro Asp Pro Ala Ala Pro Ile Thr Glu Ile Val Ser Gln Pro Glu			
210	215	220	
aga ctc ttg ttc gtc atc gac agc ttc gaa gag ctg cag ggc ggc ttg	720		
Arg Leu Leu Phe Val Ile Asp Ser Phe Glu Glu Leu Gln Gly Gly Leu			
225	230	235	240
aac gaa ccc gat tcg gat ctg tgt ggt gac ttg atg gag aaa cgg ccg	768		
Asn Glu Pro Asp Ser Asp Leu Cys Gly Asp Leu Met Glu Lys Arg Pro			
245	250	255	
gtg cag gtg ctt ctg agc agt ttg ctg agg aag aag atg ctc ccg gag	816		
Val Gln Val Leu Leu Ser Ser Leu Leu Arg Lys Lys Met Leu Pro Glu			
260	265	270	
gcc tcc ctg ctc atc gcc atc aaa ccc gtg tgc ccg aag gag ctc ccg	864		
Ala Ser Leu Leu Ile Ala Ile Lys Pro Val Cys Pro Lys Glu Leu Arg			
275	280	285	
gat cag gtg acg atc tca gaa atc tac cag ccc cgg gga ttc aac gag	912		
Asp Gln Val Thr Ile Ser Glu Ile Tyr Gln Pro Arg Gly Phe Asn Glu			
290	295	300	
agt gat agg tta gtg tat ttc tgc tgt ttc aaa gac ccg aaa aga	960		
Ser Asp Arg Leu Val Tyr Phe Cys Cys Phe Phe Lys Asp Pro Lys Arg			
305	310	315	320
gcc atg gaa gcc ttc aat ctt gta aga gaa agt gaa cag ctg ttt tcc	1008		

Ala Met Glu Ala Phe Asn Leu Val Arg Glu Ser Glu Gln Leu Phe Ser				
325	330	335		
ata tgc caa atc ccg ctc ctc tgc tgg atc ctg tgt acc agt ctg aag				1056
Ile Cys Gln Ile Pro Leu Leu Cys Trp Ile Leu Cys Thr Ser Leu Lys				
340	345	350		
caa gag atg cag aaa gga aaa gac ctg gcc ctg acc tgc cag agc act				1104
Gln Glu Met Gln Lys Gly Lys Asp Leu Ala Leu Thr Cys Gln Ser Thr				
355	360	365		
acc tct gtg tac tcc tct ttc gtc ttt aac ctg ttc aca cct gag ggt				1152
Thr Ser Val Tyr Ser Ser Phe Val Phe Asn Leu Phe Thr Pro Glu Gly				
370	375	380		
gcc gag ggc ccg act ccg caa acc cag cac cag ctg aag gcc ctg tgc				1200
Ala Glu Gly Pro Thr Pro Gln Thr Gln His Gln Leu Lys Ala Leu Cys				
385	390	395	400	
tcc ctg gct gca gag ggt atg tgg aca gac aca ttt gag ttt tgt gaa				1248
Ser Leu Ala Ala Glu Gly Met Trp Thr Asp Thr Phe Glu Phe Cys Glu				
405	410	415		
gac gac ctc cgg aga aat ggg gtt gtt gac gct gac atc cct gcg ctg				1296
Asp Asp Leu Arg Arg Asn Gly Val Val Asp Ala Asp Ile Pro Ala Leu				
420	425	430		
ctg ggc acc aag ata ctt ctg aag tac ggg gag cgt gag agc tcc tac				1344
Leu Gly Thr Lys Ile Leu Leu Lys Tyr Gly Glu Arg Glu Ser Ser Tyr				
435	440	445		
gtg ttc ctc cac gtg tgt atc cag gag ttc tgt gcc gcc ttg ttc tat				1392
Val Phe Leu His Val Cys Ile Gln Glu Phe Cys Ala Ala Leu Phe Tyr				
450	455	460		
ttg ctc aag agc cat ctt gat cat cct cac cca gct gtg aga tgt gta				1440
Leu Leu Lys Ser His Leu Asp His Pro Ala Val Arg Cys Val				
465	470	475	480	
cag gaa ttg cta gtt gcc aat ttt gaa aaa gca agg aga gca cat tgg				1488
Gln Glu Leu Leu Val Ala Asn Phe Glu Lys Ala Arg Arg Ala His Trp				
485	490	495		
att ttt ttg ggg tgt ttt cta act ggc ctt tta aat aaa aag gaa caa				1536
Ile Phe Leu Gly Cys Phe Leu Thr Gly Leu Leu Asn Lys Lys Glu Gln				
500	505	510		
gaa aaa ctg gat gcg ttt ttt ggc ttc caa ctg tcc caa gag ata aag				1584
Glu Lys Leu Asp Ala Phe Phe Gly Phe Gln Leu Ser Gln Glu Ile Lys				
515	520	525		
cag caa att cac cag tgc ctg aag agc tta ggg gag cgt ggc aat cct				1632
Gln Gln Ile His Gln Cys Leu Lys Ser Leu Gly Glu Arg Gly Asn Pro				

530	535	540	
cag gga cag gtg gat tcc ttg gcg ata ttt tac tgt ctc ttt gaa atg Gln Gly Gln Val Asp Ser Leu Ala Ile Phe Tyr Cys Leu Phe Glu Met 545	550	555	1680
cag gat cct gcc ttt gtg aag cag gca gtg aac ctc ctc caa gaa gct Gln Asp Pro Ala Phe Val Lys Gln Ala Val Asn Leu Leu Gln Glu Ala 565	570	575	1728
aac ttt cat att att gac aac gtg gac ttg gtg gtt tct gcc tac tgc Asn Phe His Ile Ile Asp Asn Val Asp Leu Val Val Ser Ala Tyr Cys 580	585	590	1776
tta aaa tac tgc tcc agc ttg agg aaa ctc tgt ttt tcc gtt caa aat Leu Lys Tyr Cys Ser Ser Leu Arg Lys Leu Cys Phe Ser Val Gln Asn 595	600	605	1824
gtc ttt aag aaa gag gat gaa cac agc tct acg tcg gat tac agc ctc Val Phe Lys Lys Glu Asp Glu His Ser Ser Thr Ser Asp Tyr Ser Leu 610	615	620	1872
atc tgt tgg cat cac atc tgc tct gtg ctc acc acc agc ggg cac ctc Ile Cys Trp His His Ile Cys Ser Val Leu Thr Thr Ser Gly His Leu 625	630	635	1920
aga gag ctc cag gtg cag gac acc ctc agc gag tcg acc ttt gtg Arg Glu Leu Gln Val Gln Asp Ser Thr Leu Ser Glu Ser Thr Phe Val 645	650	655	1968
acc tgg tgt aac cag ctg agg cat ccc agc tgt cgc ctt cag aag ctt Thr Trp Cys Asn Gln Leu Arg His Pro Ser Cys Arg Leu Gln Lys Leu 660	665	670	2016
gga ata aat aac gtt tcc ttt tct ggc cag agt gtt ctg ctc ttt gag Gly Ile Asn Asn Val Ser Phe Ser Gly Gln Ser Val Leu Leu Phe Glu 675	680	685	2064
gtg ctc ttt tat cag cca gac ttg aaa tac ctg agc ttc acc ctc acg Val Leu Phe Tyr Gln Pro Asp Leu Lys Tyr Leu Ser Phe Thr Leu Thr 690	695	700	2112
aaa ctc tct cgt gat gac atc agg tcc ctc tgt gat gcc ttg aac tac Lys Leu Ser Arg Asp Asp Ile Arg Ser Leu Cys Asp Ala Leu Asn Tyr 705	710	715	2160
cca gca ggc aac gtc aaa gag cta gcg ctg gta aat tgt cac ctc tca Pro Ala Gly Asn Val Lys Glu Leu Ala Leu Val Asn Cys His Leu Ser 725	730	735	2208
ccc att gat tgt gaa gtc ctt gct ggc ctt cta acc aac aac aag aag Pro Ile Asp Cys Glu Val Leu Ala Gly Leu Leu Thr Asn Asn Lys Lys 740	745	750	2256

ctg acg tat ctg aat gta tcc tgc aac cag tta gac aca ggc gtg ccc	755	760	765	2304
Leu Thr Tyr Leu Asn Val Ser Cys Asn Gln Leu Asp Thr Gly Val Pro				
ctt ttg tgt gaa gcc ctg tgc agc cca gac acg gtc ctg gta tac ctg	770	775	780	2352
Leu Leu Cys Glu Ala Leu Cys Ser Pro Asp Thr Val Leu Val Tyr Leu				
atg ttg gct ttc tgc cac ctc agc gag cag tgc tgc gaa tac atc tct	785	790	795	2400
Met Leu Ala Phe Cys His Leu Ser Glu Gln Cys Cys Glu Tyr Ile Ser				
gaa atg ctt ctg cgt aac aag agc gtg cgc tat cta gac ctc agt gcc	805	810	815	2448
Glu Met Leu Leu Arg Asn Lys Ser Val Arg Tyr Leu Asp Leu Ser Ala				
aat gtc ctg aag gac gaa gga ctg aaa act ctc tgc gag gcc ttg aaa	820	825	830	2496
Asn Val Leu Lys Asp Glu Gly Leu Lys Thr Leu Cys Glu Ala Leu Lys				
cat ccg gac tgc tgc ctg gat tca ctg tgt ttg gta aaa tgt ttt atc	835	840	845	2544
His Pro Asp Cys Cys Leu Asp Ser Leu Cys Leu Val Lys Cys Phe Ile				
act gct gct ggc tgt gaa gac ctc gcc tct gct ctc atc agc aat caa	850	855	860	2592
Thr Ala Ala Gly Cys Glu Asp Leu Ala Ser Ala Leu Ile Ser Asn Gln				
aac ctg aag att ctg caa att ggg tgc aat gaa atc gga gat gtg ggt	865	870	875	2640
Asn Leu Lys Ile Leu Gln Ile Gly Cys Asn Glu Ile Gly Asp Val Gly				
gtg cag ctg ttg tgt cgg gct ctg acg cat acg gat tgc cgc tta gag	885	890	895	2688
Val Gln Leu Leu Cys Arg Ala Leu Thr His Thr Asp Cys Arg Leu Glu				
att ctt ggg ttg gaa gaa tgt ggg tta acg agc acc tgc tgt aag gat	900	905	910	2736
Ile Leu Gly Leu Glu Cys Gly Leu Thr Ser Thr Cys Cys Lys Asp				
ctc gcg tct gtt ctc acc tgc agt aag acc ctg cag cag ctc aac ctg	915	920	925	2784
Leu Ala Ser Val Leu Thr Cys Ser Lys Thr Leu Gln Gln Leu Asn Leu				
acc ttg aac acc ttg gac cac aca ggg gtg gtt gta ctc tgt gag gcc	930	935	940	2832
Thr Leu Asn Thr Leu Asp His Thr Gly Val Val Val Leu Cys Glu Ala				
ctg aga cac cca gag tgt gcc ctg cag gtg ctc ggg ctg aga aaa act	945	950	955	2880
Leu Arg His Pro Glu Cys Ala Leu Gln Val Leu Gly Leu Arg Lys Thr				

gat ttt gat gag gaa acc cag gca ctt ctg acg gct gag gaa gag aga 2928
Asp Phe Asp Glu Glu Thr Gln Ala Leu Leu Thr Ala Glu Glu Glu Arg
965 970 975

aat cct aac ctg acc atc aca gac gac tgt gac aca atc aca agg gta 2976
Asn Pro Asn Leu Thr Ile Thr Asp Asp Cys Asp Thr Ile Thr Arg Val
980 985 990

gag atc tga 2985
Glu Ile *

<210> 16
<211> 994
<212> PRT
<213> Homo sapien

<400> 16
Met Ala Ala Ser Phe Phe Ser Asp Phe Gly Leu Met Trp Tyr Leu Glu
1 5 10 15
Glu Leu Lys Lys Glu Glu Phe Arg Lys Phe Lys Glu His Leu Lys Gln
20 25 30
Met Thr Leu Gln Leu Glu Leu Lys Gln Ile Pro Trp Thr Glu Val Lys
35 40 45
Lys Ala Ser Arg Glu Glu Leu Ala Asn Leu Leu Ile Lys His Tyr Glu
50 55 60
Glu Gln Gln Ala Trp Asn Ile Thr Leu Arg Ile Phe Gln Lys Met Asp
65 70 75 80
Arg Lys Asp Leu Cys Met Lys Val Met Arg Glu Arg Thr Gly Tyr Thr
85 90 95
Lys Thr Tyr Gln Ala His Ala Lys Gln Lys Phe Ser Arg Leu Trp Ser
100 105 110
Ser Lys Ser Val Thr Glu Ile His Leu Tyr Phe Glu Glu Val Lys
115 120 125
Gln Glu Glu Cys Asp His Leu Asp Arg Leu Phe Ala Pro Lys Glu Thr
130 135 140
Gly Lys Gln Pro Arg Thr Val Ile Ile Gln Gly Pro Gln Gly Ile Gly
145 150 155 160
Lys Thr Thr Leu Leu Met Lys Leu Met Met Ala Trp Ser Asp Asn Lys
165 170 175
Ile Phe Arg Asp Arg Phe Leu Tyr Thr Phe Tyr Phe Cys Cys Arg Glu
180 185 190
Leu Arg Glu Leu Pro Pro Thr Ser Leu Ala Asp Leu Ile Ser Arg Glu
195 200 205
Trp Pro Asp Pro Ala Ala Pro Ile Thr Glu Ile Val Ser Gln Pro Glu
210 215 220
Arg Leu Leu Phe Val Ile Asp Ser Phe Glu Glu Leu Gln Gly Gly Leu
225 230 235 240
Asn Glu Pro Asp Ser Asp Leu Cys Gly Asp Leu Met Glu Lys Arg Pro
245 250 255
Val Gln Val Leu Leu Ser Ser Leu Leu Arg Lys Lys Met Leu Pro Glu
260 265 270

Ala Ser Leu Leu Ile Ala Ile Lys Pro Val Cys Pro Lys Glu Leu Arg
275 280 285
Asp Gln Val Thr Ile Ser Glu Ile Tyr Gln Pro Arg Gly Phe Asn Glu
290 295 300
Ser Asp Arg Leu Val Tyr Phe Cys Cys Phe Phe Lys Asp Pro Lys Arg
305 310 315 320
Ala Met Glu Ala Phe Asn Leu Val Arg Glu Ser Glu Gln Leu Phe Ser
325 330 335
Ile Cys Gln Ile Pro Leu Leu Cys Trp Ile Leu Cys Thr Ser Leu Lys
340 345 350
Gln Glu Met Gln Lys Gly Lys Asp Leu Ala Leu Thr Cys Gln Ser Thr
355 360 365
Thr Ser Val Tyr Ser Ser Phe Val Phe Asn Leu Phe Thr Pro Glu Gly
370 375 380
Ala Glu Gly Pro Thr Pro Gln Thr Gln His Gln Leu Lys Ala Leu Cys
385 390 395 400
Ser Leu Ala Ala Glu Gly Met Trp Thr Asp Thr Phe Glu Phe Cys Glu
405 410 415
Asp Asp Leu Arg Arg Asn Gly Val Val Asp Ala Asp Ile Pro Ala Leu
420 425 430
Leu Gly Thr Lys Ile Leu Leu Lys Tyr Gly Glu Arg Glu Ser Ser Tyr
435 440 445
Val Phe Leu His Val Cys Ile Gln Glu Phe Cys Ala Ala Leu Phe Tyr
450 455 460
Leu Leu Lys Ser His Leu Asp His Pro His Pro Ala Val Arg Cys Val
465 470 475 480
Gln Glu Leu Leu Val Ala Asn Phe Glu Lys Ala Arg Arg Ala His Trp
485 490 495
Ile Phe Leu Gly Cys Phe Leu Thr Gly Leu Leu Asn Lys Lys Glu Gln
500 505 510
Glu Lys Leu Asp Ala Phe Phe Gly Phe Gln Leu Ser Gln Glu Ile Lys
515 520 525
Gln Gln Ile His Gln Cys Leu Lys Ser Leu Gly Glu Arg Gly Asn Pro
530 535 540
Gln Gly Gln Val Asp Ser Leu Ala Ile Phe Tyr Cys Leu Phe Glu Met
545 550 555 560
Gln Asp Pro Ala Phe Val Lys Gln Ala Val Asn Leu Leu Gln Glu Ala
565 570 575
Asn Phe His Ile Ile Asp Asn Val Asp Leu Val Val Ser Ala Tyr Cys
580 585 590
Leu Lys Tyr Cys Ser Ser Leu Arg Lys Leu Cys Phe Ser Val Gln Asn
595 600 605
Val Phe Lys Lys Glu Asp Glu His Ser Ser Thr Ser Asp Tyr Ser Leu
610 615 620
Ile Cys Trp His His Ile Cys Ser Val Leu Thr Thr Ser Gly His Leu
625 630 635 640
Arg Glu Leu Gln Val Gln Asp Ser Thr Leu Ser Glu Ser Thr Phe Val
645 650 655
Thr Trp Cys Asn Gln Leu Arg His Pro Ser Cys Arg Leu Gln Lys Leu
660 665 670
Gly Ile Asn Asn Val Ser Phe Ser Gly Gln Ser Val Leu Leu Phe Glu
675 680 685
Val Leu Phe Tyr Gln Pro Asp Leu Lys Tyr Leu Ser Phe Thr Leu Thr

690	695	700
Lys Leu Ser Arg Asp Asp Ile Arg Ser Leu Cys Asp Ala Leu Asn Tyr		
705	710	715
Pro Ala Gly Asn Val Lys Glu Leu Ala Leu Val Asn Cys His Leu Ser		
725	730	735
Pro Ile Asp Cys Glu Val Leu Ala Gly Leu Leu Thr Asn Asn Lys Lys		
740	745	750
Leu Thr Tyr Leu Asn Val Ser Cys Asn Gln Leu Asp Thr Gly Val Pro		
755	760	765
Leu Leu Cys Glu Ala Leu Cys Ser Pro Asp Thr Val Leu Val Tyr Leu		
770	775	780
Met Leu Ala Phe Cys His Leu Ser Glu Gln Cys Cys Glu Tyr Ile Ser		
785	790	795
Glu Met Leu Leu Arg Asn Lys Ser Val Arg Tyr Leu Asp Leu Ser Ala		
805	810	815
Asn Val Leu Lys Asp Glu Gly Leu Lys Thr Leu Cys Glu Ala Leu Lys		
820	825	830
His Pro Asp Cys Cys Leu Asp Ser Leu Cys Leu Val Lys Cys Phe Ile		
835	840	845
Thr Ala Ala Gly Cys Glu Asp Leu Ala Ser Ala Leu Ile Ser Asn Gln		
850	855	860
Asn Leu Lys Ile Leu Gln Ile Gly Cys Asn Glu Ile Gly Asp Val Gly		
865	870	875
Val Gln Leu Leu Cys Arg Ala Leu Thr His Thr Asp Cys Arg Leu Glu		
885	890	895
Ile Leu Gly Leu Glu Glu Cys Gly Leu Thr Ser Thr Cys Cys Lys Asp		
900	905	910
Leu Ala Ser Val Leu Thr Cys Ser Lys Thr Leu Gln Gln Leu Asn Leu		
915	920	925
Thr Leu Asn Thr Leu Asp His Thr Gly Val Val Val Leu Cys Glu Ala		
930	935	940
Leu Arg His Pro Glu Cys Ala Leu Gln Val Leu Gly Leu Arg Lys Thr		
945	950	955
Asp Phe Asp Glu Glu Thr Gln Ala Leu Leu Thr Ala Glu Glu Glu Arg		
965	970	975
Asn Pro Asn Leu Thr Ile Thr Asp Asp Cys Asp Thr Ile Thr Arg Val		
980	985	990
Glu Ile		

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<211> 2844
<212> DNA
<213> Homo sapien

<220>
<221> CDS
<222> (1)...(2841)

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Met Asp Gln Pro Glu Ala Pro Cys Ser Ser Thr Gly Pro Arg Leu Ala

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gtg gcc cgc gag ctg ctc ctg gct gcg ctg gag gaa ctg agc caa gag				96
Val Ala Arg Glu Leu Leu Leu Ala Ala Leu Glu Leu Ser Gln Glu				
20	25	30		
cag ctg aag cgc ttc cgc cac aag ctg cgc gac gtg ggc ccg gac gga				144
Gln Leu Lys Arg Phe Arg His Lys Leu Arg Asp Val Gly Pro Asp Gly				
35	40	45		
cgc agc atc ccg tgg ggg cgg ctg gag cgc gcg gac gcc gtg gac ctc				192
Arg Ser Ile Pro Trp Gly Arg Leu Glu Arg Ala Asp Ala Val Asp Leu				
50	55	60		
gct gag cag ctg gcc cag ttc tac ggc ccg gag cct gcc ctg gag gtg				240
Ala Glu Gln Leu Ala Gln Phe Tyr Gly Pro Glu Pro Ala Leu Glu Val				
65	70	75	80	
gcc cgc aag acc ctc aag agg gct gac gct cgc gac gtg gct gct cag				288
Ala Arg Lys Thr Leu Lys Arg Ala Asp Ala Arg Asp Val Ala Ala Gln				
85	90	95		
ctc cag gag cgg cgg ctg cag cgg ctc ggg ctc ggc tcc ggg acg ctg				336
Leu Gln Glu Arg Arg Leu Gln Arg Leu Gly Leu Gly Ser Gly Thr Leu				
100	105	110		
ctc tcc gtg tcc gag tac aag aag aag tac cgg gag cac gtg ctg cag				384
Leu Ser Val Ser Glu Tyr Lys Lys Tyr Arg Glu His Val Leu Gln				
115	120	125		
ctg cac gct cgg gtg aag gag agg aac gcc cgc tcc gtg aag atc acc				432
Leu His Ala Arg Val Lys Glu Arg Asn Ala Arg Ser Val Lys Ile Thr				
130	135	140		
aag cgc ttc acc aag ctg ctc atc gct ccc gag agc gcc gct ccc gag				480
Lys Arg Phe Thr Lys Leu Leu Ile Ala Pro Glu Ser Ala Ala Pro Glu				
145	150	155	160	
gag gct ctg ggg ccc gct gaa gag cct gag cgg ggg cgc gct cgg cgc				528
Glu Ala Leu Gly Pro Ala Glu Glu Pro Glu Pro Gly Arg Ala Arg Arg				
165	170	175		
tcg gac acg cac act ttc aac cgc ctc ttc cgc cgc gac gag gag ggc				576
Ser Asp Thr His Thr Phe Asn Arg Leu Phe Arg Arg Asp Glu Glu Gly				
180	185	190		
cggttccaccgttgtctgcggccggccggccatcgccaa				624
Arg Arg Pro Leu Thr Val Val Leu Gln Gly Pro Ala Gly Ile Gly Lys				
195	200	205		
acc atg gct gcc aaa aag atc ctg tac gac tgg gct gct ggc aag ctg				672
Thr Met Ala Ala Lys Lys Ile Leu Tyr Asp Trp Ala Ala Gly Lys Leu				
210	215	220		

tac	cag	ggc	cag	gtg	gac	ttc	gcc	ttc	atg	ccc	tgc	ggc	gag	ctg		720	
Tyr	Gln	Gly	Gln	Val	Asp	Phe	Ala	Phe	Phe	Met	Pro	Cys	Gly	Glu	Leu		
225				230					235					240			
ctg	gag	agg	ccg	ggc	acg	cgc	agc	ctg	gct	gac	ctg	atc	ctg	gac	cag	768	
Leu	Glu	Arg	Pro	Gly	Thr	Arg	Ser	Leu	Ala	Asp	Leu	Ile	Leu	Asp	Gln		
	245							250					255				
tgc	ccc	gac	cgc	ggc	gcg	ccg	gtg	ccg	cag	atg	ctg	gcc	cag	ccg	cag	816	
Cys	Pro	Asp	Arg	Gly	Ala	Pro	Val	Pro	Gln	Met	Leu	Ala	Gln	Pro	Gln		
	260						265				270						
cgg	ctg	ctc	ttc	atc	ctg	gac	ggc	gcg	gac	gag	ctg	ccg	gcg	ctg	ggg	864	
Arg	Leu	Leu	Phe	Ile	Leu	Asp	Gly	Ala	Asp	Glu	Leu	Pro	Ala	Leu	Gly		
	275					280				285							
ggc	ccc	gag	gcc	gcg	ccc	tgc	aca	gac	ccc	ttc	gag	gcg	gcg	agc	ggc	912	
Gly	Pro	Glu	Ala	Ala	Pro	Cys	Thr	Asp	Pro	Phe	Glu	Ala	Ala	Ser	Gly		
	290					295				300							
gcg	cgg	gtg	cta	ggc	ggg	ctg	ctg	agc	aag	gcg	ctg	ctg	ccc	acg	gcc	960	
Ala	Arg	Val	Leu	Gly	Gly	Leu	Leu	Ser	Lys	Ala	Leu	Leu	Pro	Thr	Ala		
	305					310			315			320					
ctc	ctg	ctg	gtg	acc	acg	cgc	gcc	gcc	ccc	ggg	agg	ctg	cag	ggc		1008	
Leu	Leu	Leu	Val	Thr	Thr	Arg	Ala	Ala	Ala	Pro	Gly	Arg	Leu	Gln	Gly		
				325				330			335						
cgc	ctg	tgt	tcc	ccg	cag	tgc	gcc	gag	gtg	cgc	ggc	ttc	tcc	gac	aag	1056	
Arg	Leu	Cys	Ser	Pro	Gln	Cys	Ala	Glu	Val	Arg	Gly	Phe	Ser	Asp	Lys		
				340			345			350							
gac	aag	aag	aag	tat	ttc	tac	aag	ttc	ttc	cg	gat	gag	agg	agg	ggc	1104	
Asp	Lys	Lys	Tyr	Phe	Tyr	Lys	Phe	Phe	Phe	Arg	Asp	Glu	Arg	Arg	Ala		
				355			360			365							
gag	cgc	gcc	tac	cgc	ttc	gtg	aag	gag	aac	gag	acg	ctg	ttc	gcg	ctg	1152	
Glu	Arg	Ala	Tyr	Arg	Phe	Val	Lys	Glu	Asn	Glu	Thr	Leu	Phe	Ala	Leu		
				370			375			380							
tgc	ttc	gtg	ccc	ttc	gtg	tgc	tgg	atc	gtg	tgc	acc	gtg	ctg	cgc	cag	1200	
Cys	Phe	Val	Pro	Phe	Val	Cys	Trp	Ile	Val	Cys	Thr	Val	Leu	Arg	Gln		
				385			390			395			400				
cag	ctg	gag	ctc	gg	gac	ctg	tcg	cgc	acg	tcc	aag	acc	acc	acg		1248	
Gln	Leu	Glu	Leu	Gly	Arg	Asp	Leu	Ser	Arg	Thr	Ser	Lys	Thr	Thr	Thr		
				405				410			415						
tca	gtg	tac	ctg	ctt	ttc	atc	acc	acg	gtt	ctg	acg	tcg	gct	ccg	gta	1296	
Ser	Val	Tyr	Leu	Leu	Phe	Ile	Thr	Ser	Val	Leu	Ser	Ser	Ala	Pro	Val		
				420			425			430							

gcc gac ggg ccc cgg ttg cag ggc gac ctg cgc aat ctg tgc cgc ctg		1344
Ala Asp Gly Pro Arg Leu Gln Gly Asp Leu Arg Asn Leu Cys Arg Leu		
435	440	445
gcc cgc gag ggc gtc ctc gga cgc agg gcg cag ttt gcc gag aag gaa		1392
Ala Arg Glu Gly Val Leu Gly Arg Arg Ala Gln Phe Ala Glu Lys Glu		
450	455	460
ctg gag caa ctg gag ctt cgt ggc tcc aaa gtg cag acg ctg ttt ctc		1440
Leu Glu Gln Leu Glu Leu Arg Gly Ser Lys Val Gln Thr Leu Phe Leu		
465	470	475
480		
agc aaa aag gag ctg ccg ggc gtg ctg gag aca gag gtc acc tac cag		1488
Ser Lys Lys Glu Leu Pro Gly Val Leu Glu Thr Glu Val Thr Tyr Gln		
485	490	495
ttc atc gac cag agc ttc cag gag ttc ctc gcg gca ctg tcc tac ctg		1536
Phe Ile Asp Gln Ser Phe Gln Glu Phe Leu Ala Ala Leu Ser Tyr Leu		
500	505	510
ctg gag gac ggc ggg gtg ccc agg acc gcg gct ggc ggc gtt ggg aca		1584
Leu Glu Asp Gly Gly Val Pro Arg Thr Ala Ala Gly Gly Val Gly Thr		
515	520	525
ctc ctg cgt ggg gac gcc cag ccg cac agc cac ttg gtg ctc acc acg		1632
Leu Leu Arg Gly Asp Ala Gln Pro His Ser His Leu Val Leu Thr Thr		
530	535	540
540		
cgc ttc ctc ttc gga ctg ctg agc gcg gag cgg atg cgc gac atc gag		1680
Arg Phe Leu Phe Gly Leu Leu Ser Ala Glu Arg Met Arg Asp Ile Glu		
545	550	555
560		
cgc cac ttc ggc tgc atg gtt tca gag cgt gtg aag cag gag gcc ctg		1728
Arg His Phe Gly Cys Met Val Ser Glu Arg Val Lys Gln Glu Ala Leu		
565	570	575
575		
cgg tgg gtg cag gga cag gga cag ggc tgc ccc gga gtg gca cca gag		1776
Arg Trp Val Gln Gly Gln Gly Cys Pro Gly Val Ala Pro Glu		
580	585	590
590		
gtg acc gag ggg gcc aaa ggg ctc gag gac acc gaa gag cca gag gag		1824
Val Thr Glu Gly Ala Lys Gly Leu Glu Asp Thr Glu Glu Pro Glu Glu		
595	600	605
605		
gag gag gag gga gag gag ccc aac tac cca ctg gag ttg ctg tac tgc		1872
Glu Glu Glu Gly Glu Pro Asn Tyr Pro Leu Glu Leu Leu Tyr Cys		
610	615	620
620		
ctg tac gag acg cag gag gac gcg ttt gtg cgc caa gcc ctg tgc cgg		1920
Leu Tyr Glu Thr Gln Glu Asp Ala Phe Val Arg Gln Ala Leu Cys Arg		
625	630	635
640		
ttc ccg gag ctg gcg ctg cag cga gtg cgc ttc tgc cgc atg gac gtg		1968

Phe Pro Glu Leu Ala Leu Gln Arg Val Arg Phe Cys Arg Met Asp Val			
645	650	655	
gct gtt ctg agc tac tgc gtg agg tgc tgc cct gct gga cag gca ctg			2016
Ala Val Leu Ser Tyr Cys Val Arg Cys Cys Pro Ala Gly Gln Ala Leu			
660	665	670	
cgg ctg atc agc tgc aga ttg gtt gct gcg cag gag aag aag aag			2064
Arg Leu Ile Ser Cys Arg Leu Val Ala Ala Gln Glu Lys Lys Lys			
675	680	685	
agc ctg ggg aag cgg ctc cag gcc agc ctg ggt ggc ggc agc tgg ctg			2112
Ser Leu Gly Lys Arg Leu Gln Ala Ser Leu Gly Gly Ser Trp Leu			
690	695	700	
ggg acc caa ctg gct cca gaa gta ccc ttt cga cca ccc tgc tgt gac			2160
Gly Thr Gln Leu Ala Pro Glu Val Pro Phe Arg Pro Pro Cys Cys Asp			
705	710	715	720
atc tgc ccc aca cct cca cca gac cct cgg ctc cag ggc aag gct			2208
Ile Cys Pro Thr Pro Pro Asp Pro Arg Leu Leu Gln Gly Lys Ala			
725	730	735	
ttt gcc aga gtt cct ttg aat ata gct cca att cag ccc ctg ccc agg			2256
Phe Ala Arg Val Pro Leu Asn Ile Ala Pro Ile Gln Pro Leu Pro Arg			
740	745	750	
ggc ttg gca tct gtt gag agg atg aat gtc acg gtg ttg gca ggg gct			2304
Gly Leu Ala Ser Val Glu Arg Met Asn Val Thr Val Leu Ala Gly Ala			
755	760	765	
ggg cct ggg gac cca aag acc cat gca atg act gac cca ctg tgc cat			2352
Gly Pro Gly Asp Pro Lys Thr His Ala Met Thr Asp Pro Leu Cys His			
770	775	780	
ctg agc agc ctc acg ctg tcc cac tgc aaa ctc cct gac gcg gtc tgc			2400
Leu Ser Ser Leu Thr Leu Ser His Cys Lys Leu Pro Asp Ala Val Cys			
785	790	795	800
cga gac ctt tct gag gcc ctg agg gca gcc ccc gca ctg acg gag ctg			2448
Arg Asp Leu Ser Glu Ala Leu Arg Ala Ala Pro Ala Leu Thr Glu Leu			
805	810	815	
ggc ctc ctc cac aac agg ctc agt gag gca gga ctg cgt atg ctg agt			2496
Gly Leu Leu His Asn Arg Leu Ser Glu Ala Gly Leu Arg Met Leu Ser			
820	825	830	
gag ggc cta gcc tgg ccg cag tgc agg gtg cag acg gtc agg gta cag			2544
Glu Gly Leu Ala Trp Pro Gln Cys Arg Val Gln Thr Val Arg Val Gln			
835	840	845	
ctg cct gac ccc cag cga ggg ctc cag tac ctg gtg ggt atg ctt cgg			2592
Leu Pro Asp Pro Gln Arg Gly Leu Gln Tyr Leu Val Gly Met Leu Arg			

850	855	860														
cag	agc	cct	gcc	ctg	acc	acc	ctg	gat	ctc	agc	ggc	tgc	caa	ctg	ccc	2640
Gln	Ser	Pro	Ala	Leu	Thr	Thr	Leu	Asp	Leu	Ser	Gly	Cys	Gln	Leu	Pro	
865			870			875			880							
gcc	ccc	atg	gtg	acc	tac	ctg	tgt	gca	gtc	ctg	cag	cac	cag	gga	tgc	2688
Ala	Pro	Met	Val	Thr	Tyr	Leu	Cys	Ala	Val	Leu	Gln	His	Gln	Gly	Cys	
885			890			895										
ggc	ctg	cag	acc	ctc	agt	ctg	gcc	tct	gtg	gag	ctg	agc	gag	cag	tca	2736
Gly	Leu	Gln	Thr	Leu	Ser	Leu	Ala	Ser	Val	Glu	Leu	Ser	Glu	Gln	Ser	
900			905			910										
cta	cag	gag	ctt	cag	gct	gtg	aag	aga	gca	aag	ccg	gat	ctg	gtc	atc	2784
Leu	Gln	Glu	Leu	Gln	Ala	Val	Lys	Arg	Ala	Lys	Pro	Asp	Leu	Val	Ile	
915			920			925										
aca	cac	cca	gcg	ctg	gac	ggc	cac	cca	caa	cct	ccc	aag	gaa	ctc	atc	2832
Thr	His	Pro	Ala	Leu	Asp	Gly	His	Pro	Gln	Pro	Pro	Lys	Glu	Leu	Ile	
930			935			940										
tcg	acc	tcc	tga													2844
Ser	Thr	Phe														
945																
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<211> 947																
<212> PRT																
<213> Homo sapien																
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Met	Asp	Gln	Pro	Glu	Ala	Pro	Cys	Ser	Ser	Thr	Gly	Pro	Arg	Leu	Ala	
1				5					10				15			
Val	Ala	Arg	Glu	Leu	Leu	Leu	Ala	Ala	Leu	Glù	Glu	Leu	Ser	Gln	Glu	
				20					25				30			
Gln	Leu	Lys	Arg	Phe	Arg	His	Lys	Leu	Arg	Asp	Val	Gly	Pro	Asp	Gly	
				35					40				45			
Arg	Ser	Ile	Pro	Trp	Gly	Arg	Leu	Glu	Arg	Ala	Asp	Ala	Val	Asp	Leu	
				50					55				60			
Ala	Glu	Gln	Leu	Ala	Gln	Phe	Tyr	Gly	Pro	Glu	Pro	Ala	Leu	Glu	Val	
				65					70				75			80
Ala	Arg	Lys	Thr	Leu	Lys	Arg	Ala	Asp	Ala	Arg	Asp	Val	Ala	Ala	Gln	
					85				90				95			
Leu	Gln	Glu	Arg	Arg	Leu	Gln	Arg	Leu	Gly	Leu	Gly	Ser	Gly	Thr	Leu	
					100				105				110			
Leu	Ser	Val	Ser	Glu	Tyr	Lys	Lys	Tyr	Arg	Glu	His	Val	Leu	Gln		
					115				120				125			
Leu	His	Ala	Arg	Val	Lys	Glu	Arg	Asn	Ala	Arg	Ser	Val	Lys	Ile	Thr	
				130				135				140				
Lys	Arg	Phe	Thr	Lys	Leu	Leu	Ile	Ala	Pro	Glu	Ser	Ala	Ala	Pro	Glu	
				145				150				155			160	

Glu Ala Leu Gly Pro Ala Glu Glu Pro Glu Pro Gly Arg Ala Arg Arg
165 170 175
Ser Asp Thr His Thr Phe Asn Arg Leu Phe Arg Arg Asp Glu Glu Gly
180 185 190
Arg Arg Pro Leu Thr Val Val Leu Gln Gly Pro Ala Gly Ile Gly Lys
195 200 205
Thr Met Ala Ala Lys Lys Ile Leu Tyr Asp Trp Ala Ala Gly Lys Leu
210 215 220
Tyr Gln Gly Gln Val Asp Phe Ala Phe Phe Met Pro Cys Gly Glu Leu
225 230 235 240
Leu Glu Arg Pro Gly Thr Arg Ser Leu Ala Asp Leu Ile Leu Asp Gln
245 250 255
Cys Pro Asp Arg Gly Ala Pro Val Pro Gln Met Leu Ala Gln Pro Gln
260 265 270
Arg Leu Leu Phe Ile Leu Asp Gly Ala Asp Glu Leu Pro Ala Leu Gly
275 280 285
Gly Pro Glu Ala Ala Pro Cys Thr Asp Pro Phe Glu Ala Ala Ser Gly
290 295 300
Ala Arg Val Leu Gly Gly Leu Leu Ser Lys Ala Leu Leu Pro Thr Ala
305 310 315 320
Leu Leu Leu Val Thr Thr Arg Ala Ala Ala Pro Gly Arg Leu Gln Gly
325 330 335
Arg Leu Cys Ser Pro Gln Cys Ala Glu Val Arg Gly Phe Ser Asp Lys
340 345 350
Asp Lys Lys Lys Tyr Phe Tyr Lys Phe Phe Arg Asp Glu Arg Arg Ala
355 360 365
Glu Arg Ala Tyr Arg Phe Val Lys Glu Asn Glu Thr Leu Phe Ala Leu
370 375 380
Cys Phe Val Pro Phe Val Cys Trp Ile Val Cys Thr Val Leu Arg Gln
385 390 395 400
Gln Leu Glu Leu Gly Arg Asp Leu Ser Arg Thr Ser Lys Thr Thr Thr
405 410 415
Ser Val Tyr Leu Leu Phe Ile Thr Ser Val Leu Ser Ser Ala Pro Val
420 425 430
Ala Asp Gly Pro Arg Leu Gln Gly Asp Leu Arg Asn Leu Cys Arg Leu
435 440 445
Ala Arg Glu Gly Val Leu Gly Arg Arg Ala Gln Phe Ala Glu Lys Glu
450 455 460
Leu Glu Gln Leu Glu Leu Arg Gly Ser Lys Val Gln Thr Leu Phe Leu
465 470 475 480
Ser Lys Lys Glu Leu Pro Gly Val Leu Glu Thr Glu Val Thr Tyr Gln
485 490 495
Phe Ile Asp Gln Ser Phe Gln Glu Phe Leu Ala Ala Leu Ser Tyr Leu
500 505 510
Leu Glu Asp Gly Gly Val Pro Arg Thr Ala Ala Gly Gly Val Gly Thr
515 520 525
Leu Leu Arg Gly Asp Ala Gln Pro His Ser His Leu Val Leu Thr Thr
530 535 540
Arg Phe Leu Phe Gly Leu Leu Ser Ala Glu Arg Met Arg Asp Ile Glu
545 550 555 560
Arg His Phe Gly Cys Met Val Ser Glu Arg Val Lys Gln Glu Ala Leu
565 570 575
Arg Trp Val Gln Gly Gln Gly Cys Pro Gly Val Ala Pro Glu

580	585	590
Val Thr Glu Gly Ala Lys Gly Leu	Glu Asp Thr Glu	Glu Pro Glu Glu
595	600	605
Glu Glu Glu Gly Glu Glu Pro Asn Tyr	Pro Leu Glu	Leu Leu Tyr Cys
610	615	620
Leu Tyr Glu Thr Gln Glu Asp Ala Phe Val	Arg Gln Ala	Leu Cys Arg
625	630	635
Phe Pro Glu Leu Ala Leu Gln Arg Val	Arg Phe Cys Arg	Met Asp Val
645	650	655
Ala Val Leu Ser Tyr Cys Val Arg Cys	Cys Pro Ala Gly	Gln Ala Leu
660	665	670
Arg Leu Ile Ser Cys Arg Leu Val Ala	Gln Glu Lys	Lys Lys Lys
675	680	685
Ser Leu Gly Lys Arg Leu Gln Ala Ser	Leu Gly Gly	Ser Trp Leu
690	695	700
Gly Thr Gln Leu Ala Pro Glu Val Pro	Phe Arg Pro	Pro Cys Cys Asp
705	710	715
Ile Cys Pro Thr Pro Pro Asp Pro	Arg Leu Leu Gln	Gly Lys Ala
725	730	735
Phe Ala Arg Val Pro Leu Asn Ile Ala	Pro Ile Gln Pro	Leu Pro Arg
740	745	750
Gly Leu Ala Ser Val Glu Arg Met Asn	Val Thr Val	Leu Ala Gly Ala
755	760	765
Gly Pro Gly Asp Pro Lys Thr His Ala	Met Thr Asp Pro	Leu Cys His
770	775	780
Leu Ser Ser Leu Thr Leu Ser His Cys	Lys Leu Pro Asp	Ala Val Cys
785	790	795
Arg Asp Leu Ser Glu Ala Leu Arg Ala	Ala Pro Ala	Leu Thr Glu Leu
805	810	815
Gly Leu Leu His Asn Arg Leu Ser	Glu Ala Gly	Leu Arg Met Leu Ser
820	825	830
Glu Gly Leu Ala Trp Pro Gln Cys	Arg Val Gln Thr	Val Arg Val Gln
835	840	845
Leu Pro Asp Pro Gln Arg Gly Leu Gln	Tyr Leu Val	Gly Met Leu Arg
850	855	860
Gln Ser Pro Ala Leu Thr Thr Leu Asp	Leu Ser Gly Cys	Gln Leu Pro
865	870	875
Ala Pro Met Val Thr Tyr Leu Cys	Ala Val Leu Gln	His Gln Gly Cys
885	890	895
Gly Leu Gln Thr Leu Ser Leu Ala	Ser Val Glu	Leu Ser Gln Ser
900	905	910
Leu Gln Glu Leu Gln Ala Val Lys	Arg Ala Lys Pro	Asp Leu Val Ile
915	920	925
Thr His Pro Ala Leu Asp Gly His Pro	Gln Pro Pro	Lys Glu Leu Ile
930	935	940
Ser Thr Phe		
945		

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<211> 2046

<212> DNA

<213> Homo sapien

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<222> (1)...(2043)

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tcc tcc act cac agt tct cat att ccg ccc tgg aca ttc tct tgc tac 96
Ser Ser Thr His Ser Ser His Ile Pro Pro Trp Thr Phe Ser Cys Tyr
20 25 30

ccc ggc tcc cca tgt gaa aat ggg gtc atg ctg tac atg aga aac gtg 144
Pro Gly Ser Pro Cys Glu Asn Gly Val Met Leu Tyr Met Arg Asn Val
35 40 45

agc cat gag gag cta caa cgg ttc aag cag ctc tta ctg act gag ctc 192
Ser His Glu Glu Leu Gln Arg Phe Lys Gln Leu Leu Leu Thr Glu Leu
50 55 60

agt act ggc acc atg ccc atc acc tgg gac cag gtc gag aca gcc agc 240
Ser Thr Gly Thr Met Pro Ile Thr Trp Asp Gln Val Glu Thr Ala Ser
65 70 75 80

tgg gca gag gtg gtt cat ctc ttg ata gag cgt ttc cct gga cga cgc 288
Trp Ala Glu Val Val His Leu Leu Ile Glu Arg Phe Pro Gly Arg Arg
85 90 95

gct tgg gat gtg act tcg aac atc ttt gcc att atg aac tgt gat aaa 336
Ala Trp Asp Val Thr Ser Asn Ile Phe Ala Ile Met Asn Cys Asp Lys
100 105 110

atg tgt gtt gta gtc cgc aga gag ata aat gcc att ctg cct acc ttg 384
Met Cys Val Val Val Arg Arg Glu Ile Asn Ala Ile Leu Pro Thr Leu
115 120 125

gaa cca gag gac ttg aat gtg gga gaa aca cag gtg aat ctg gag gaa 432
Glu Pro Glu Asp Leu Asn Val Gly Glu Thr Gln Val Asn Leu Glu Glu
130 135 140

gga gaa tct ggt aaa ata cgg cgg tat aaa tcg aat gtg atg gaa aag 480
Gly Glu Ser Gly Lys Ile Arg Arg Tyr Lys Ser Asn Val Met Glu Lys
145 150 155 160

ttt ttc ccc ata tgg gac att acg act tgg cct gga aac cag agg gac 528
Phe Phe Pro Ile Trp Asp Ile Thr Thr Trp Pro Gly Asn Gln Arg Asp
165 170 175

ttc ttc tac caa ggt gta cac agg cac gag gag tac tta cca tgt ctg 576
Phe Phe Tyr Gln Gly Val His Arg His Glu Glu Tyr Leu Pro Cys Leu
180 185 190

ctt ctg ccc aaa aga ccc cag ggt aga cag ccc aag acc gtg gcc ata 624
Leu Leu Pro Lys Arg Pro Gln Gly Arg Gln Pro Lys Thr Val Ala Ile
195 200 205

cag gga gct cct ggg atc gga aaa aca atc ctg gcc aaa aag gtg atg 672
Gln Gly Ala Pro Gly Ile Gly Lys Thr Ile Leu Ala Lys Lys Val Met
210 215 220

ttt gag tgg gcc aga aac aag ttc tac gcc cac aag cgc tgg tgt gct 720
Phe Glu Trp Ala Arg Asn Lys Phe Tyr Ala His Lys Arg Trp Cys Ala
225 230 235 240

ttc tac ttc cat tgc caa gag gtg aac cag acg aca gac cag agc ttc 768
Phe Tyr Phe His Cys Gln Glu Val Asn Gln Thr Thr Asp Gln Ser Phe
245 250 255

tcc gag ctg att gag caa aag tgg cct gga tct cag gac ctc gtg tca 816
Ser Glu Leu Ile Glu Gln Lys Trp Pro Gly Ser Gln Asp Leu Val Ser
260 265 270

aag att atg tcc aaa ccc gac caa ctt ctg ctg ctc ttg gat ggc ttt 864
Lys Ile Met Ser Lys Pro Asp Gln Leu Leu Leu Leu Asp Gly Phe
275 280 285

gag gag ctc aca tct acc ctc att gac aga ctg gag gac ctg agt gaa 912
Glu Glu Leu Thr Ser Thr Leu Ile Asp Arg Leu Glu Asp Leu Ser Glu
290 295 300

gac tgg agg cag aaa ttg cct ggg tct gtc cta ctg agc agt ttg ctg 960
Asp Trp Arg Gln Lys Leu Pro Gly Ser Val Leu Leu Ser Ser Leu Leu
305 310 315 320

agc aaa acg atg ctt cca gag gcc acg cta ctg atc atg ata aga ttt 1008
Ser Lys Thr Met Leu Pro Glu Ala Thr Leu Leu Ile Met Ile Arg Phe
325 330 335

acc tct tgg cag aca tgc aag ccc ttg ctg aaa tgt ccc tct ctc gta 1056
Thr Ser Trp Gln Thr Cys Lys Pro Leu Leu Lys Cys Pro Ser Leu Val
340 345 350

acc ctt ccg ggg ttt aat acg atg gaa aaa atc aag tat ttc cag atg 1104
Thr Leu Pro Gly Phe Asn Thr Met Glu Lys Ile Lys Tyr Phe Gln Met
355 360 365

tat ttt gga cac aca gag gag gga gac caa gtc ttg agt ttc gcc atg 1152
Tyr Phe Gly His Thr Glu Glu Gly Asp Gln Val Leu Ser Phe Ala Met
370 375 380

gaa aac acc att ctc ttc tcc atg tgc cgg gtc cct gtg gtt tgc tgg 1200
Glu Asn Thr Ile Leu Phe Ser Met Cys Arg Val Pro Val Val Cys Trp
385 390 395 400

atg gtc tgc tct ggt ctg aaa cag caa atg gag aga gga aac aat ctc			1248
Met Val Cys Ser Gly Leu Lys Gln Gln Met Glu Arg Gly Asn Asn Leu			
405	410	415	
aca cag tca tgt cca aat gcc acc tct gtg ttc gtc cggtat att tct			1296
Thr Gln Ser Cys Pro Asn Ala Thr Ser Val Phe Val Arg Tyr Ile Ser			
420	425	430	
agc ttg ttt ccc acc aga gct gag aac ttt tcc aga aag atc cac caa			1344
Ser Leu Phe Pro Thr Arg Ala Glu Asn Phe Ser Arg Lys Ile His Gln			
435	440	445	
gca caa ctg gaa ggt ctg tgt cac ttg gcc gca gac agc atg tgg cac			1392
Ala Gln Leu Glu Gly Leu Cys His Leu Ala Ala Asp Ser Met Trp His			
450	455	460	
agg aaa tgg gtg tta ggt aaa gaa gat ctt gag gaa gcc aag ctg gat			1440
Arg Lys Trp Val Leu Gly Lys Glu Asp Leu Glu Ala Lys Leu Asp			
465	470	475	480
cag acg gga gtc acc gcc ttc ctt ggc atg agt att ctt cggtat ctt			1488
Gln Thr Gly Val Thr Ala Phe Leu Gly Met Ser Ile Leu Arg Arg Ile			
485	490	495	
gca ggt gag gaa gac cac tat gtc ttt acc ctc gtg act ttt cag gaa			1536
Ala Gly Glu Glu Asp His Tyr Val Phe Thr Leu Val Thr Phe Gln Glu			
500	505	510	
ttt ttt gcg gcc ttg ttt tat gtt ctc tgt ttc cca caa aga ctc aaa			1584
Phe Phe Ala Ala Leu Phe Tyr Val Leu Cys Phe Pro Gln Arg Leu Lys			
515	520	525	
aat ttt cat gtg ttg agc cac gtg aat atc cag cgc ctg ata gcg agt			1632
Asn Phe His Val Leu Ser His Val Asn Ile Gln Arg Leu Ile Ala Ser			
530	535	540	
ccc aga gga agc aaa agc tat ctc tct cac atg gga ctt ttc tta ttc			1680
Pro Arg Gly Ser Lys Ser Tyr Leu Ser His Met Gly Leu Phe Leu Phe			
545	550	555	560
ggt ttt ctg aac gag gcc tgc gct tcg gcc gtg gaa cag tca ttc caa			1728
Gly Phe Leu Asn Glu Ala Cys Ala Ser Ala Val Glu Gln Ser Phe Gln			
565	570	575	
tgc aag gtg tct ttc ggt aat aag agg aaa ctg ctg aaa gtc ata cct			1776
Cys Lys Val Ser Phe Gly Asn Lys Arg Lys Leu Leu Lys Val Ile Pro			
580	585	590	
ctg ttg cat aaa tgt gac cca cct tct ccg ggc agt ggg gtc ccg cag			1824
Leu Leu His Lys Cys Asp Pro Pro Ser Pro Gly Ser Gly Val Pro Gln			
595	600	605	
tta ttc tac tgt ctg cat gaa atc cgg gag gaa gcc ttt gta agc caa			1872

Leu Phe Tyr Cys Leu His Glu Ile Arg Glu Glu Ala Phe Val Ser Gln
610 615 620

gcc cta aat gat tat cat aaa gtt gtc ttg aga att ggc aac aac aaa 1920
Ala Leu Asn Asp Tyr His Lys Val Val Leu Arg Ile Gly Asn Asn Lys
625 630 635 640

gaa gtt caa gtg tct gct ttt tgc ctg aag cgg tgt caa tat ttg cat 1968
Glu Val Gln Val Ser Ala Phe Cys Leu Lys Arg Cys Gln Tyr Leu His
645 650 655

gag gtg gaa ctg acc gtc acc ctg aac ttc atg aac gtg tgg aag ctc 2016
Glu Val Glu Leu Thr Val Thr Leu Asn Phe Met Asn Val Trp Lys Leu
660 665 670

agc tcc agc tcc cat cct ggc tct gag taa 2046
Ser Ser Ser His Pro Gly Ser Glu
675 680

<210> 20
<211> 681
<212> PRT
<213> Homo sapien

<400> 20
Met Ser Asp Val Asn Pro Pro Ser Asp Thr Pro Ile Pro Phe Ser Ser
1 5 10 15
Ser Ser Thr His Ser Ser His Ile Pro Pro Trp Thr Phe Ser Cys Tyr
20 25 30
Pro Gly Ser Pro Cys Glu Asn Gly Val Met Leu Tyr Met Arg Asn Val
35 40 45
Ser His Glu Glu Leu Gln Arg Phe Lys Gln Leu Leu Thr Glu Leu
50 55 60
Ser Thr Gly Thr Met Pro Ile Thr Trp Asp Gln Val Glu Thr Ala Ser
65 70 75 80
Trp Ala Glu Val Val His Leu Leu Ile Glu Arg Phe Pro Gly Arg Arg
85 90 95
Ala Trp Asp Val Thr Ser Asn Ile Phe Ala Ile Met Asn Cys Asp Lys
100 105 110
Met Cys Val Val Val Arg Arg Glu Ile Asn Ala Ile Leu Pro Thr Leu
115 120 125
Glu Pro Glu Asp Leu Asn Val Gly Glu Thr Gln Val Asn Leu Glu Glu
130 135 140
Gly Glu Ser Gly Lys Ile Arg Arg Tyr Lys Ser Asn Val Met Glu Lys
145 150 155 160
Phe Phe Pro Ile Trp Asp Ile Thr Thr Trp Pro Gly Asn Gln Arg Asp
165 170 175
Phe Phe Tyr Gln Gly Val His Arg His Glu Glu Tyr Leu Pro Cys Leu
180 185 190
Leu Leu Pro Lys Arg Pro Gln Gly Arg Gln Pro Lys Thr Val Ala Ile
195 200 205
Gln Gly Ala Pro Gly Ile Gly Lys Thr Ile Leu Ala Lys Lys Val Met

210	215	220
Phe Glu Trp Ala Arg Asn Lys Phe Tyr Ala His Lys Arg Trp Cys Ala		
225	230	235
Phe Tyr Phe His Cys Gln Glu Val Asn Gln Thr Thr Asp Gln Ser Phe		240
245	250	255
Ser Glu Leu Ile Glu Gln Lys Trp Pro Gly Ser Gln Asp Leu Val Ser		
260	265	270
Lys Ile Met Ser Lys Pro Asp Gln Leu Leu Leu Leu Asp Gly Phe		
275	280	285
Glu Glu Leu Thr Ser Thr Leu Ile Asp Arg Leu Glu Asp Leu Ser Glu		
290	295	300
Asp Trp Arg Gln Lys Leu Pro Gly Ser Val Leu Leu Ser Ser Leu Leu		
305	310	315
Ser Lys Thr Met Leu Pro Glu Ala Thr Leu Leu Ile Met Ile Arg Phe		320
325	330	335
Thr Ser Trp Gln Thr Cys Lys Pro Leu Leu Lys Cys Pro Ser Leu Val		
340	345	350
Thr Leu Pro Gly Phe Asn Thr Met Glu Lys Ile Lys Tyr Phe Gln Met		
355	360	365
Tyr Phe Gly His Thr Glu Glu Gly Asp Gln Val Leu Ser Phe Ala Met		
370	375	380
Glu Asn Thr Ile Leu Phe Ser Met Cys Arg Val Pro Val Val Cys Trp		
385	390	395
Met Val Cys Ser Gly Leu Lys Gln Gln Met Glu Arg Gly Asn Asn Leu		400
405	410	415
Thr Gln Ser Cys Pro Asn Ala Thr Ser Val Phe Val Arg Tyr Ile Ser		
420	425	430
Ser Leu Phe Pro Thr Arg Ala Glu Asn Phe Ser Arg Lys Ile His Gln		
435	440	445
Ala Gln Leu Glu Gly Leu Cys His Leu Ala Ala Asp Ser Met Trp His		
450	455	460
Arg Lys Trp Val Leu Gly Lys Glu Asp Leu Glu Glu Ala Lys Leu Asp		
465	470	475
Gln Thr Gly Val Thr Ala Phe Leu Gly Met Ser Ile Leu Arg Arg Ile		480
485	490	495
Ala Gly Glu Glu Asp His Tyr Val Phe Thr Leu Val Thr Phe Gln Glu		
500	505	510
Phe Phe Ala Ala Leu Phe Tyr Val Leu Cys Phe Pro Gln Arg Leu Lys		
515	520	525
Asn Phe His Val Leu Ser His Val Asn Ile Gln Arg Leu Ile Ala Ser		
530	535	540
Pro Arg Gly Ser Lys Ser Tyr Leu Ser His Met Gly Leu Phe Leu Phe		
545	550	555
Gly Phe Leu Asn Glu Ala Cys Ala Ser Ala Val Glu Gln Ser Phe Gln		560
565	570	575
Cys Lys Val Ser Phe Gly Asn Lys Arg Lys Leu Leu Lys Val Ile Pro		
580	585	590
Leu Leu His Lys Cys Asp Pro Pro Ser Pro Gly Ser Gly Val Pro Gln		
595	600	605
Leu Phe Tyr Cys Leu His Glu Ile Arg Glu Glu Ala Phe Val Ser Gln		
610	615	620
Ala Leu Asn Asp Tyr His Lys Val Val Leu Arg Ile Gly Asn Asn Lys		
625	630	635
		640

Glu Val Gln Val Ser Ala Phe Cys Leu Lys Arg Cys Gln Tyr Leu His
645 650 655
Glu Val Glu Leu Thr Val Thr Leu Asn Phe Met Asn Val Trp Lys Leu
660 665 670
Ser Ser Ser His Pro Gly Ser Glu
675 680

<210> 21
<211> 1515
<212> DNA
<213> Homo sapien

<220>
<221> CDS
<222> (1)...(1512)

<400> 21
atg gcc atg gcc aag gcc aga aag ccc cgg gag gca ttg ctc tgg gcc 48
Met Ala Met Ala Lys Ala Arg Lys Pro Arg Glu Ala Leu Leu Trp Ala
1 5 10 15

ttg agt gac ctt gag gag aac gat ttc aag aag tta aag ttc tac tta 96
Leu Ser Asp Leu Glu Glu Asn Asp Phe Lys Lys Leu Lys Phe Tyr Leu
20 25 30

cgg gat atg acc ctg tct gag ggc cag ccc cca ctg gcc aga ggg gag 144
Arg Asp Met Thr Leu Ser Glu Gly Gln Pro Pro Leu Ala Arg Gly Glu
35 40 45

ttg gag ggc ctg att ccg gtg gac ctg gca gaa tta ctg att tca aag 192
Leu Glu Gly Leu Ile Pro Val Asp Leu Ala Glu Leu Leu Ile Ser Lys
50 55 60

tat gga gaa aag gag gct gtg aaa gtt gtc ctc aag ggc ttg aag gtc 240
Tyr Gly Glu Ala Val Lys Val Val Leu Lys Gly Leu Lys Val
65 70 75 80

atg aac ctg ttg gaa ctt gtg gac cag ctc agc cat att tgt ctg cat 288
Met Asn Leu Glu Leu Val Asp Gln Leu Ser His Ile Cys Leu His
85 90 95

ggg gtc ggc tgg cac tgg aaa gac aac tct cgc cag aaa aag gtg ttg 336
Gly Val Gly Trp His Trp Lys Asp Asn Ser Arg Gln Lys Lys Val Leu
100 105 110

gac tgg gcc acc ggt act ctg tac cca ggc cgg ttt gat tat gtc ttt 384
Asp Trp Ala Thr Gly Thr Leu Tyr Pro Gly Arg Phe Asp Tyr Val Phe
115 120 125

tat gta agc tgc aaa gaa gtg gtc ctg ctg gag agc aaa ctg gag 432
Tyr Val Ser Cys Lys Glu Val Val Leu Leu Glu Ser Lys Leu Glu
130 135 140

cag ctc ctt ttc tgg tgc tgc ggg gac aat caa gcc cct gtc aca gag 480
Gln Leu Leu Phe Trp Cys Cys Gly Asp Asn Gln Ala Pro Val Thr Glu
145 150 155 160

att ctg agg cag cca gag cgg ctc ctg ttc atc ctg gat ggc ttt gat 528
Ile Leu Arg Gln Pro Glu Arg Leu Leu Phe Ile Leu Asp Gly Phe Asp
165 170 175

gag ctg cag agg ccc ttt gaa gaa aag ttg aag aag agg ggt ttg agt 576
Glu Leu Gln Arg Pro Phe Glu Glu Lys Leu Lys Lys Arg Gly Leu Ser
180 185 190

ccc aag gag agc ctg ctg cac ctt cta att agg aga cat aca ctc ccc 624
Pro Lys Glu Ser Leu Leu His Leu Leu Ile Arg Arg His Thr Leu Pro
195 200 205

acg tgc tcc ctt ctc atc acc acc cgg ccc ctg gct ttg agg aat ctg 672
Thr Cys Ser Leu Leu Ile Thr Thr Arg Pro Leu Ala Leu Arg Asn Leu
210 215 220

gag ccc ttg ctg aaa caa gca cgt cat gtc cat atc cta ggc ttc tct 720
Glu Pro Leu Leu Lys Gln Ala Arg His Val His Ile Leu Gly Phe Ser
225 230 235 240

gag gag gag agg gcg agg tac ttc agc tcc tat ttc acg gat gag aag 768
Glu Glu Glu Arg Ala Arg Tyr Phe Ser Ser Tyr Phe Thr Asp Glu Lys
245 250 255

caa gct gac cgt gcc ttc gac att gta cag aaa aat gac att ctc tac 816
Gln Ala Asp Arg Ala Phe Asp Ile Val Gln Lys Asn Asp Ile Leu Tyr
260 265 270

aaa gcg tgt cag gtt cca ggc att tgc tgg gtg gtc tgc tcc tgg ctg 864
Lys Ala Cys Gln Val Pro Gly Ile Cys Trp Val Val Cys Ser Trp Leu
275 280 285

cag ggg cag atg gag aga ggc aaa gtt gtc tta gag aca cct aga aac 912
Gln Gly Gln Met Glu Arg Gly Lys Val Val Leu Glu Thr Pro Arg Asn
290 295 300

agc act gac atc ttc atg gct tac gtc tcc acc ttt ctg ccg ccc gat 960
Ser Thr Asp Ile Phe Met Ala Tyr Val Ser Thr Phe Leu Pro Pro Asp
305 310 315 320

gat gat ggg ggc tgc tcc gag ctt tcc cgg cac agg gtc ctg agg agt 1008
Asp Asp Gly Gly Cys Ser Glu Leu Ser Arg His Arg Val Leu Arg Ser
325 330 335

ctg tgc tcc cta gca gct gaa ggg att cag cac cag agg ttc cta ttt 1056
Leu Cys Ser Leu Ala Ala Glu Gly Ile Gln His Gln Arg Phe Leu Phe
340 345 350

gaa gaa gct gag ctc agg aaa cat aat tta gat ggc ccc agg ctt gcc	1104	
Glu Glu Ala Glu Leu Arg Lys His Asn Leu Asp Gly Pro Arg Leu Ala		
355 360 365		
gct ttc ctg agt agt aac gac tac caa ttg gga ctt gcc atc aag aag	1152	
Ala Phe Leu Ser Ser Asn Asp Tyr Gln Leu Gly Leu Ala Ile Lys Lys		
370 375 380		
ttc tac agc ttc cgc cac atc agc ttc cag gac ttt ttt cat gcc atg	1200	
Phe Tyr Ser Phe Arg His Ile Ser Phe Gln Asp Phe Phe His Ala Met		
385 390 395 400		
tct tac ctg gtg aaa gag gac caa agc cgg ctg ggg aag gag tcc cgc	1248	
Ser Tyr Leu Val Lys Glu Asp Gln Ser Arg Leu Gly Lys Glu Ser Arg		
405 410 415		
aga gaa gtg caa agg ctg ctg gag gta aag gag cag gaa ggg aat gat	1296	
Arg Glu Val Gln Arg Leu Leu Glu Val Lys Glu Gln Glu Gly Asn Asp		
420 425 430		
gag atg acc ctc act atg cag ttt tta ctg gac atc tcg aaa aaa gac	1344	
Glu Met Thr Leu Thr Met Gln Phe Leu Leu Asp Ile Ser Lys Lys Asp		
435 440 445		
agc ttc tcg aac ttg gag ctc aag ttc tgc ttc aga att tct ccc tgt	1392	
Ser Phe Ser Asn Leu Glu Leu Lys Phe Cys Phe Arg Ile Ser Pro Cys		
450 455 460		
tta gcg cag gat ctg aag cat ttt aaa gaa cag atg gaa tct atg aag	1440	
Leu Ala Gln Asp Leu Lys His Phe Lys Glu Gln Met Glu Ser Met Lys		
465 470 475 480		
cac aac agg acc tgg gat ttg gaa ttc tcc ctg tat gaa gct aaa ata	1488	
His Asn Arg Thr Trp Asp Leu Glu Phe Ser Leu Tyr Glu Ala Lys Ile		
485 490 495		
aag aat ctg gta aaa gta ttc aga tga	1515	
Lys Asn Leu Val Lys Val Phe Arg		
500		
<210> 22		
<211> 504		
<212> PRT		
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<400> 22		
Met Ala Met Ala Lys Ala Arg Lys Pro Arg Glu Ala Leu Leu Trp Ala		
1	5	10
15		
Leu Ser Asp Leu Glu Glu Asn Asp Phe Lys Lys Leu Lys Phe Tyr Leu		
20	25	30
30		
Arg Asp Met Thr Leu Ser Glu Gly Gln Pro Pro Leu Ala Arg Gly Glu		
35	40	45

Leu Glu Gly Leu Ile Pro Val Asp Leu Ala Glu Leu Leu Ile Ser Lys
50 55 60
Tyr Gly Glu Lys Glu Ala Val Lys Val Val Leu Lys Gly Leu Lys Val
65 70 75 80
Met Asn Leu Leu Glu Leu Val Asp Gln Leu Ser His Ile Cys Leu His
85 90 95
Gly Val Gly Trp His Trp Lys Asp Asn Ser Arg Gln Lys Lys Val Leu
100 105 110
Asp Trp Ala Thr Gly Thr Leu Tyr Pro Gly Arg Phe Asp Tyr Val Phe
115 120 125
Tyr Val Ser Cys Lys Glu Val Val Leu Leu Leu Glu Ser Lys Leu Glu
130 135 140
Gln Leu Leu Phe Trp Cys Cys Gly Asp Asn Gln Ala Pro Val Thr Glu
145 150 155 160
Ile Leu Arg Gln Pro Glu Arg Leu Leu Phe Ile Leu Asp Gly Phe Asp
165 170 175
Glu Leu Gln Arg Pro Phe Glu Glu Lys Leu Lys Lys Arg Gly Leu Ser
180 185 190
Pro Lys Glu Ser Leu Leu His Leu Leu Ile Arg Arg His Thr Leu Pro
195 200 205
Thr Cys Ser Leu Leu Ile Thr Thr Arg Pro Leu Ala Leu Arg Asn Leu
210 215 220
Glu Pro Leu Leu Lys Gln Ala Arg His Val His Ile Leu Gly Phe Ser
225 230 235 240
Glu Glu Glu Arg Ala Arg Tyr Phe Ser Ser Tyr Phe Thr Asp Glu Lys
245 250 255
Gln Ala Asp Arg Ala Phe Asp Ile Val Gln Lys Asn Asp Ile Leu Tyr
260 265 270
Lys Ala Cys Gln Val Pro Gly Ile Cys Trp Val Val Cys Ser Trp Leu
275 280 285
Gln Gly Gln Met Glu Arg Gly Lys Val Val Leu Glu Thr Pro Arg Asn
290 295 300
Ser Thr Asp Ile Phe Met Ala Tyr Val Ser Thr Phe Leu Pro Pro Asp
305 310 315 320
Asp Asp Gly Gly Cys Ser Glu Leu Ser Arg His Arg Val Leu Arg Ser
325 330 335
Leu Cys Ser Leu Ala Ala Glu Gly Ile Gln His Gln Arg Phe Leu Phe
340 345 350
Glu Glu Ala Glu Leu Arg Lys His Asn Leu Asp Gly Pro Arg Leu Ala
355 360 365
Ala Phe Leu Ser Ser Asn Asp Tyr Gln Leu Gly Leu Ala Ile Lys Lys
370 375 380
Phe Tyr Ser Phe Arg His Ile Ser Phe Gln Asp Phe Phe His Ala Met
385 390 395 400
Ser Tyr Leu Val Lys Glu Asp Gln Ser Arg Leu Gly Lys Glu Ser Arg
405 410 415
Arg Glu Val Gln Arg Leu Leu Glu Val Lys Glu Gln Glu Gly Asn Asp
420 425 430
Glu Met Thr Leu Thr Met Gln Phe Leu Leu Asp Ile Ser Lys Lys Asp
435 440 445
Ser Phe Ser Asn Leu Glu Leu Lys Phe Cys Phe Arg Ile Ser Pro Cys
450 455 460
Leu Ala Gln Asp Leu Lys His Phe Lys Glu Gln Met Glu Ser Met Lys

465 470 475 480
His Asn Arg Thr Trp Asp Leu Glu Phe Ser Leu Tyr Glu Ala Lys Ile
485 490 495
Lys Asn Leu Val Lys Val Phe Arg
500

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<211> 3108
<212> DNA
<213> Homo sapien

<220>
<221> CDS
<222> (1)....(3105)

<400> 23
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Met Leu Arg Thr Ala Gly Arg Asp Gly Leu Cys Arg Leu Ser Thr Tyr
1 5 10 15

ttg gaa gaa ctc gag gct gtg gaa ctg aag aag ttc aag tta tac ctg 96
Leu Glu Glu Leu Glu Ala Val Glu Leu Lys Lys Phe Lys Leu Tyr Leu
20 25 30

ggg acc gcg aca gag ctg gga gaa ggc aag atc ccc tgg gga agc atg 144
Gly Thr Ala Thr Glu Leu Gly Glu Gly Lys Ile Pro Trp Gly Ser Met
35 40 45

gag aag gcc ggt ccc ctg gaa atg gcc cag ctg ctc atc acc cac ttc 192
Glu Lys Ala Gly Pro Leu Glu Met Ala Gln Leu Leu Ile Thr His Phe
50 55 60

ggg cca gag gag gcc tgg agg ttg gct ctc agc acc ttt gag cgg ata 240
Gly Pro Glu Glu Ala Trp Arg Leu Ala Leu Ser Thr Phe Glu Arg Ile
65 70 75 80

aac agg aag gac ctg tgg gag aga gga cag aga gag gac ctg gtg agg 288
Asn Arg Lys Asp Leu Trp Glu Arg Gly Gln Arg Glu Asp Leu Val Arg
85 90 95

gat ccc cag gaa acc tac agg gac tat gtc cgc agg aaa ttc cgg ctc 336
Asp Pro Gln Glu Thr Tyr Arg Asp Tyr Val Arg Arg Lys Phe Arg Leu
100 105 110

atg gaa gac cgc aat gcg cgc cta ggg gaa tgt gtc aac ctc agc cac 384
Met Glu Asp Arg Asn Ala Arg Leu Gly Glu Cys Val Asn Leu Ser His
115 120 125

cgg tac acc cgg ctc ctg ctg gtg aag gag cac tca aac ccc atg cag 432
Arg Tyr Thr Arg Leu Leu Leu Val Lys Glu His Ser Asn Pro Met Gln
130 135 140

gtc cag cag cag ctt ctg gac aca ggc cgg gga cac gcg agg acc gtc 480
Val Gln Gln Gln Leu Leu Asp Thr Gly Arg Gly His Ala Arg Thr Val
145 150 155 160

gga cac cag gct agc ccc atc aag ata gag acc ctc ttt gag cca gac 528
Gly His Gln Ala Ser Pro Ile Lys Ile Glu Thr Leu Phe Glu Pro Asp
165 170 175

gag gag cgc ccc gag cca ccg cgc acc gtc atg caa ggc gcg gca 576
Glu Glu Arg Pro Glu Pro Pro Arg Thr Val Val Met Gln Gly Ala Ala
180 185 190

ggg ata ggc aag tcc atg ctg gca cac aag gtc atg ctg gac tgg gcg 624
Gly Ile Gly Lys Ser Met Leu Ala His Lys Val Met Leu Asp Trp Ala
195 200 205

gac ggg aag ctc ttc caa ggc aga ttt gat tat ctc ttc tac atc aac 672
Asp Gly Lys Leu Phe Gln Gly Arg Phe Asp Tyr Leu Phe Tyr Ile Asn
210 215 220

tgc agg gag atg aac cag agt gcc acg gaa tgc agc atg caa gac ctc 720
Cys Arg Glu Met Asn Gln Ser Ala Thr Glu Cys Ser Met Gln Asp Leu
225 230 235 240

atc ttc agc tgc tgg cct gag ccc agc gcg cct ctc cag gag ctc atc 768
Ile Phe Ser Cys Trp Pro Glu Pro Ser Ala Pro Leu Gln Glu Leu Ile
245 250 255

cga gtt ccc gag cgc ctc ctt ttc atc atc gac ggc ttc gat gag ctc 816
Arg Val Pro Glu Arg Leu Leu Phe Ile Ile Asp Gly Phe Asp Glu Leu
260 265 270

aag cct tct ttc cac gat cct cag gga ccc tgg tgc ctc tgc tgg gag 864
Lys Pro Ser Phe His Asp Pro Gln Gly Pro Trp Cys Leu Cys Trp Glu
275 280 285

gag aaa cgg ccc acg gag ctg ctt aac agc tta att cgg aag aag 912
Glu Lys Arg Pro Thr Glu Leu Leu Asn Ser Leu Ile Arg Lys Lys
290 295 300

ctg ctc cct gag cta tct ttg ctc atc acc aca cgg ccc acg gct ttg 960
Leu Leu Pro Glu Leu Ser Leu Leu Ile Thr Thr Arg Pro Thr Ala Leu
305 310 315 320

gag aag ctc cac cgt ctg gag cac ccc agg cat gtg gag atc ctg 1008
Glu Lys Leu His Arg Leu Leu Glu His Pro Arg His Val Glu Ile Leu
325 330 335

ggc ttc tct gag gca gaa agg aag gaa tac ttc tac aag tat ttc cac 1056
Gly Phe Ser Glu Ala Glu Arg Lys Glu Tyr Phe Tyr Lys Tyr Phe His
340 345 350

aat gca gag cag ggc caa gtc ttc aat tac gtg agg gac aac gag 1104

Asn	Ala	Glu	Gln	Ala	Gly	Gln	Val	Phe	Asn	Tyr	Val	Arg	Asp	Asn	Glu				
355																365			
cct	ctc	ttc	acc	atg	tgc	ttc	gtc	ccc	ctg	gtg	tgc	tgg	gtg	gtg	tgt		1152		
Pro	Leu	Phe	Thr	Met	Cys	Phe	Val	Pro	Leu	Val	Cys	Trp	Val	Val	Cys				
370																380			
acc	tgc	ctc	cag	cag	cag	ctg	gag	ggg	ggg	ctg	ttg	aga	cag	acg			1200		
Thr	Cys	Leu	Gln	Gln	Leu	Glu	Gly	Gly	Gly	Leu	Leu	Arg	Gln	Thr					
385																395	400		
tcc	agg	acc	acc	act	gca	gtg	tac	atg	ctc	tac	ctg	ctg	agt	ctg	atg		1248		
Ser	Arg	Thr	Thr	Thr	Ala	Val	Tyr	Met	Leu	Tyr	Leu	Leu	Ser	Leu	Met				
																405	410	415	
caa	ccc	aag	ccg	ggg	gcc	ccg	cgc	ctc	cag	ccc	cca	ccc	aac	cag	aga		1296		
Gln	Pro	Lys	Pro	Gly	Ala	Pro	Arg	Leu	Gln	Pro	Pro	Pro	Asn	Gln	Arg				
																420	425	430	
ggg	ttg	tgc	tcc	ttg	gcg	gca	gat	ggg	ctc	tgg	aat	cag	aaa	atc	cta		1344		
Gly	Leu	Cys	Ser	Leu	Ala	Ala	Asp	Gly	Leu	Trp	Asn	Gln	Lys	Ile	Leu				
																435	440	445	
ttt	gag	gag	cag	gac	ctc	cg	aag	cac	ggc	cta	gac	ggg	gaa	gac	gtc		1392		
Phe	Glu	Glu	Gln	Asp	Leu	Arg	Lys	His	Gly	Leu	Asp	Gly	Glu	Asp	Val				
																450	455	460	
tct	gcc	ttc	ctc	aac	atg	aac	atc	ttc	cag	aag	gac	atc	aac	tgt	gag		1440		
Ser	Ala	Phe	Leu	Asn	Met	Asn	Ile	Phe	Gln	Lys	Asp	Ile	Asn	Cys	Glu				
																465	470	475	480
agg	tac	tac	agc	ttc	atc	cac	ttg	agt	ttc	cag	gaa	ttc	ttt	gca	gct		1488		
Arg	Tyr	Tyr	Ser	Phe	Ile	His	Leu	Ser	Phe	Gln	Glu	Phe	Phe	Ala	Ala				
																485	490	495	
atg	tac	tat	atc	ctg	gac	gag	ggg	gag	ggc	ggg	gca	ggc	cca	gac	cag		1536		
Met	Tyr	Tyr	Ile	Leu	Asp	Glu	Gly	Gly	Ala	Gly	Pro	Asp	Gln				500	505	510
gac	gtg	acc	agg	ctg	ttg	acc	gag	tac	gcg	ttt	tct	gaa	agg	agc	ttc		1584		
Asp	Val	Thr	Arg	Leu	Leu	Thr	Glu	Tyr	Ala	Phe	Ser	Glu	Arg	Ser	Phe				
																515	520	525	
ctg	gca	ctc	acc	agc	cgc	ttc	ctg	ttt	gga	ctc	ctg	aac	gag	gag	acc		1632		
Leu	Ala	Leu	Thr	Ser	Arg	Phe	Leu	Phe	Gly	Leu	Leu	Asn	Glu	Glu	Thr				
																530	535	540	
agg	agc	cac	ctg	gag	aag	agt	ctc	tgc	tgg	aag	gtc	tcg	ccg	cac	atc		1680		
Arg	Ser	His	Leu	Glu	Lys	Ser	Leu	Cys	Trp	Lys	Val	Ser	Pro	His	Ile				
																545	550	555	560
aag	atg	gac	ctg	ttg	cag	tgg	atc	caa	agc	aaa	gct	cag	agc	gac	ggc		1728		
Lys	Met	Asp	Leu	Leu	Gln	Trp	Ile	Gln	Ser	Lys	Ala	Gln	Ser	Asp	Gly				

565

570

575

tcc acc ctg cag cag ggc tcc ttg gag ttc ttc agc tgc ttg tac gag 1776
Ser Thr Leu Gln Gln Gly Ser Leu Glu Phe Phe Ser Cys Leu Tyr Glu
580 585 590

atc cag gag gag gag ttt atc cag cag gcc ctg agc cac ttc cag gtg 1824
Ile Gln Glu Glu Glu Phe Ile Gln Gln Ala Leu Ser His Phe Gln Val
595 600 605

atc gtg gtc agc aac att gcc tcc aag atg gag cac atg gtc tcc tcg 1872
Ile Val Val Ser Asn Ile Ala Ser Lys Met Glu His Met Val Ser Ser
610 615 620

ttc tgt ctg aag cgc tgc agg agc gcc cag gtg ctg cac ttg tat ggc 1920
Phe Cys Leu Lys Arg Cys Arg Ser Ala Gln Val Leu His Leu Tyr Gly
625 630 635 640

gcc acc tac agc gcg gac ggg gaa gac cgc gcg agg tgc tcc gca gga 1968
Ala Thr Tyr Ser Ala Asp Gly Glu Asp Arg Ala Arg Cys Ser Ala Gly
645 650 655

gcg cac acg ctg ttg gtg cag ctc aga cca gag agg acc gtt ctg ctg 2016
Ala His Thr Leu Leu Val Gln Leu Arg Pro Glu Arg Thr Val Leu Leu
660 665 670

gac gcc tac agt gaa cat ctg gca gcg gcc ctg tgc acc aat cca aac 2064
Asp Ala Tyr Ser Glu His Leu Ala Ala Leu Cys Thr Asn Pro Asn
675 680 685

ctg ata gag ctg tct ctg tac cga aat gcc ctg ggc agc cgg ggg gtg 2112
Leu Ile Glu Leu Ser Leu Tyr Arg Asn Ala Leu Gly Ser Arg Gly Val
690 695 700

aag ctg ctc tgt caa gga ctc aga cac ccc aac tgc aaa ctt cag aac 2160
Lys Leu Leu Cys Gln Gly Leu Arg His Pro Asn Cys Lys Leu Gln Asn
705 710 715 720

ctg agg ctg aag agg tgc cgc atc tcc agc tca gcc tgc gag gac ctc 2208
Leu Arg Leu Lys Arg Cys Arg Ile Ser Ser Ala Cys Glu Asp Leu
725 730 735

tct gca gct ctc ata gcc aat aag aat ttg aca agg atg gat ctc agt 2256
Ser Ala Ala Leu Ile Ala Asn Lys Asn Leu Thr Arg Met Asp Leu Ser
740 745 750

ggc aac ggc gtt gga ttc cca ggc atg atg ctg ctt tgc gag ggc ctg 2304
Gly Asn Gly Val Gly Phe Pro Gly Met Met Leu Leu Cys Glu Gly Leu
755 760 765

cgg cat ccc cag tgc agg ctg cag atg att cag ttg agg aag tgt cag 2352
Arg His Pro Gln Cys Arg Leu Gln Met Ile Gln Leu Arg Lys Cys Gln
770 775 780

ctg gag tcc ggg gct tgt cag gag atg gct tct gtg ctc ggc acc aac		2400
Leu Glu Ser Gly Ala Cys Gln Glu Met Ala Ser Val Leu Gly Thr Asn		
785	790	800
cca cat ctg gtt gag ttg gac ctg aca gga aat gca ctg gag gat ttg		2448
Pro His Leu Val Glu Leu Asp Leu Thr Gly Asn Ala Leu Glu Asp Leu		
805	810	815
ggc ctg agg tta cta tgc cag gga ctg agg cac cca gtc tgc aga cta		2496
Gly Leu Arg Leu Leu Cys Gln Gly Leu Arg His Pro Val Cys Arg Leu		
820	825	830
cgg act ttg tgg ctg aag atc tgc cgc ctc act gct gct gcc tgt gac		2544
Arg Thr Leu Trp Leu Lys Ile Cys Arg Leu Thr Ala Ala Ala Cys Asp		
835	840	845
gag ctg gcc tca act ctc agt gtg aac cag agc ctg aga gag ctg gac		2592
Glu Leu Ala Ser Thr Leu Ser Val Asn Gln Ser Leu Arg Glu Leu Asp		
850	855	860
ctg agc ctg aat gag ctg ggg gac ctc ggg gtg ctg ctg tgt gag		2640
Leu Ser Leu Asn Glu Leu Gly Asp Leu Gly Val Leu Leu Leu Cys Glu		
865	870	875
880		
ggc ctc agg cat ccc acg tgc aag ctc cag acc ctg cgg ttg ggc atc		2688
Gly Leu Arg His Pro Thr Cys Lys Leu Gln Thr Leu Arg Leu Gly Ile		
885	890	895
tgc cgg ctg ggc tct gcc gcc tgt gag ggt ctt tct gtg gtg ctc cag		2736
Cys Arg Leu Gly Ser Ala Ala Cys Glu Gly Leu Ser Val Val Leu Gln		
900	905	910
gcc aac cac aac ctc cgg gag ctg gac ttg agt ttc aac gac ctg gga		2784
Ala Asn His Asn Leu Arg Glu Leu Asp Leu Ser Phe Asn Asp Leu Gly		
915	920	925
gac tgg ggc ctg tgg ttg ctg gct gag ggg ctg caa cat ccc gcc tgc		2832
Asp Trp Gly Leu Trp Leu Leu Ala Glu Gly Leu Gln His Pro Ala Cys		
930	935	940
aga ctc cag aaa ctg tgg ctg gat agc tgt ggc ctc aca gcc aag gct		2880
Arg Leu Gln Lys Leu Trp Leu Asp Ser Cys Gly Leu Thr Ala Lys Ala		
945	950	955
960		
tgt gag aat ctt tac ttc acc ctg ggg atc aac cag acc ttg acc gac		2928
Cys Glu Asn Leu Tyr Phe Thr Leu Gly Ile Asn Gln Thr Leu Thr Asp		
965	970	975
ctt tac ctg acc aac aac gcc cta ggg gac aca ggt gtc cga ctg ctt		2976
Leu Tyr Leu Thr Asn Asn Ala Leu Gly Asp Thr Gly Val Arg Leu Leu		
980	985	990

tgc aag cgg ctg agc cat cct ggc tgc aaa ctc cga gtc ctc tgg tta . 3024
Cys Lys Arg Leu Ser His Pro Gly Cys Lys Leu Arg Val Leu Trp Leu
995 1000 1005

ttt ggg atg gac ctg aat aaa atg acc cac agt agg ttg gca gcg ctt 3072
Phe Gly Met Asp Leu Asn Lys Met Thr His Ser Arg Leu Ala Ala Leu
1010 1015 1020

cga gta aca aaa cct tat ttg gac att ggc tgc tga 3108
Arg Val Thr Lys Pro Tyr Leu Asp Ile Gly Cys
1025 1030 1035

<210> 24

<211> 1035

<212> PRT

<213> Homo sapien

<400> 24

Met Leu Arg Thr Ala Gly Arg Asp Gly Leu Cys Arg Leu Ser Thr Tyr
1 5 10 15

Leu Glu Glu Leu Glu Ala Val Glu Leu Lys Lys Phe Lys Leu Tyr Leu
20 25 30

Gly Thr Ala Thr Glu Leu Gly Glu Gly Lys Ile Pro Trp Gly Ser Met
35 40 45

Glu Lys Ala Gly Pro Leu Glu Met Ala Gln Leu Ile Thr His Phe
50 55 60

Gly Pro Glu Glu Ala Trp Arg Leu Ala Leu Ser Thr Phe Glu Arg Ile
65 70 75 80

Asn Arg Lys Asp Leu Trp Glu Arg Gly Gln Arg Glu Asp Leu Val Arg
85 90 95

Asp Pro Gln Glu Thr Tyr Arg Asp Tyr Val Arg Arg Lys Phe Arg Leu
100 105 110

Met Glu Asp Arg Asn Ala Arg Leu Gly Glu Cys Val Asn Leu Ser His
115 120 125

Arg Tyr Thr Arg Leu Leu Leu Val Lys Glu His Ser Asn Pro Met Gln
130 135 140

Val Gln Gln Gln Leu Leu Asp Thr Gly Arg Gly His Ala Arg Thr Val
145 150 155 160

Gly His Gln Ala Ser Pro Ile Lys Ile Glu Thr Leu Phe Glu Pro Asp
165 170 175

Glu Glu Arg Pro Glu Pro Pro Arg Thr Val Val Met Gln Gly Ala Ala
180 185 190

Gly Ile Gly Lys Ser Met Leu Ala His Lys Val Met Leu Asp Trp Ala
195 200 205

Asp Gly Lys Leu Phe Gln Gly Arg Phe Asp Tyr Leu Phe Tyr Ile Asn
210 215 220

Cys Arg Glu Met Asn Gln Ser Ala Thr Glu Cys Ser Met Gln Asp Leu
225 230 235 240

Ile Phe Ser Cys Trp Pro Glu Pro Ser Ala Pro Leu Gln Glu Leu Ile
245 250 255

Arg Val Pro Glu Arg Leu Leu Phe Ile Ile Asp Gly Phe Asp Glu Leu
260 265 270

Lys Pro Ser Phe His Asp Pro Gln Gly Pro Trp Cys Leu Cys Trp Glu
275 280 285
Glu Lys Arg Pro Thr Glu Leu Leu Leu Asn Ser Leu Ile Arg Lys Lys
290 295 300
Leu Leu Pro Glu Leu Ser Leu Leu Ile Thr Thr Arg Pro Thr Ala Leu
305 310 315 320
Glu Lys Leu His Arg Leu Leu Glu His Pro Arg His Val Glu Ile Leu
325 330 335
Gly Phe Ser Glu Ala Glu Arg Lys Glu Tyr Phe Tyr Lys Tyr Phe His
340 345 350
Asn Ala Glu Gln Ala Gly Gln Val Phe Asn Tyr Val Arg Asp Asn Glu
355 360 365
Pro Leu Phe Thr Met Cys Phe Val Pro Leu Val Cys Trp Val Val Cys
370 375 380
Thr Cys Leu Gln Gln Leu Glu Gly Gly Leu Leu Arg Gln Thr
385 390 395 400
Ser Arg Thr Thr Ala Val Tyr Met Leu Tyr Leu Leu Ser Leu Met
405 410 415
Gln Pro Lys Pro Gly Ala Pro Arg Leu Gln Pro Pro Pro Asn Gln Arg
420 425 430
Gly Leu Cys Ser Leu Ala Ala Asp Gly Leu Trp Asn Gln Lys Ile Leu
435 440 445
Phe Glu Glu Gln Asp Leu Arg Lys His Gly Leu Asp Gly Glu Asp Val
450 455 460
Ser Ala Phe Leu Asn Met Asn Ile Phe Gln Lys Asp Ile Asn Cys Glu
465 470 475 480
Arg Tyr Tyr Ser Phe Ile His Leu Ser Phe Gln Glu Phe Phe Ala Ala
485 490 495
Met Tyr Tyr Ile Leu Asp Glu Gly Glu Gly Ala Gly Pro Asp Gln
500 505 510
Asp Val Thr Arg Leu Leu Thr Glu Tyr Ala Phe Ser Glu Arg Ser Phe
515 520 525
Leu Ala Leu Thr Ser Arg Phe Leu Phe Gly Leu Leu Asn Glu Glu Thr
530 535 540
Arg Ser His Leu Glu Lys Ser Leu Cys Trp Lys Val Ser Pro His Ile
545 550 555 560
Lys Met Asp Leu Leu Gln Trp Ile Gln Ser Lys Ala Gln Ser Asp Gly
565 570 575
Ser Thr Leu Gln Gln Gly Ser Leu Glu Phe Phe Ser Cys Leu Tyr Glu
580 585 590
Ile Gln Glu Glu Glu Phe Ile Gln Gln Ala Leu Ser His Phe Gln Val
595 600 605
Ile Val Val Ser Asn Ile Ala Ser Lys Met Glu His Met Val Ser Ser
610 615 620
Phe Cys Leu Lys Arg Cys Arg Ser Ala Gln Val Leu His Leu Tyr Gly
625 630 635 640
Ala Thr Tyr Ser Ala Asp Gly Glu Asp Arg Ala Arg Cys Ser Ala Gly
645 650 655
Ala His Thr Leu Leu Val Gln Leu Arg Pro Glu Arg Thr Val Leu Leu
660 665 670
Asp Ala Tyr Ser Glu His Leu Ala Ala Leu Cys Thr Asn Pro Asn
675 680 685
Leu Ile Glu Leu Ser Leu Tyr Arg Asn Ala Leu Gly Ser Arg Gly Val

690	695	700
Lys Leu Leu Cys Gln Gly Leu Arg His Pro Asn Cys Lys Leu Gln Asn		
705	710	715
Leu Arg Leu Lys Arg Cys Arg Ile Ser Ser Ser Ala Cys Glu Asp Leu		720
725	730	735
Ser Ala Ala Leu Ile Ala Asn Lys Asn Leu Thr Arg Met Asp Leu Ser		
740	745	750
Gly Asn Gly Val Gly Phe Pro Gly Met Met Leu Leu Cys Glu Gly Leu		
755	760	765
Arg His Pro Gln Cys Arg Leu Gln Met Ile Gln Leu Arg Lys Cys Gln		
770	775	780
Leu Glu Ser Gly Ala Cys Gln Glu Met Ala Ser Val Leu Gly Thr Asn		
785	790	795
800		
Pro His Leu Val Glu Leu Asp Leu Thr Gly Asn Ala Leu Glu Asp Leu		
805	810	815
Gly Leu Arg Leu Leu Cys Gln Gly Leu Arg His Pro Val Cys Arg Leu		
820	825	830
Arg Thr Leu Trp Leu Lys Ile Cys Arg Leu Thr Ala Ala Ala Cys Asp		
835	840	845
Glu Leu Ala Ser Thr Leu Ser Val Asn Gln Ser Leu Arg Glu Leu Asp		
850	855	860
Leu Ser Leu Asn Glu Leu Gly Asp Leu Gly Val Leu Leu Leu Cys Glu		
865	870	875
880		
Gly Leu Arg His Pro Thr Cys Lys Leu Gln Thr Leu Arg Leu Gly Ile		
885	890	895
Cys Arg Leu Gly Ser Ala Ala Cys Glu Gly Leu Ser Val Val Leu Gln		
900	905	910
Ala Asn His Asn Leu Arg Glu Leu Asp Leu Ser Phe Asn Asp Leu Gly		
915	920	925
Asp Trp Gly Leu Trp Leu Ala Glu Gly Leu Gln His Pro Ala Cys		
930	935	940
Arg Leu Gln Lys Leu Trp Leu Asp Ser Cys Gly Leu Thr Ala Lys Ala		
945	950	955
960		
Cys Glu Asn Leu Tyr Phe Thr Leu Gly Ile Asn Gln Thr Leu Thr Asp		
965	970	975
Leu Tyr Leu Thr Asn Asn Ala Leu Gly Asp Thr Gly Val Arg Leu Leu		
980	985	990
Cys Lys Arg Leu Ser His Pro Gly Cys Lys Leu Arg Val Leu Trp Leu		
995	1000	1005
Phe Gly Met Asp Leu Asn Lys Met Thr His Ser Arg Leu Ala Ala Leu		
1010	1015	1020
Arg Val Thr Lys Pro Tyr Leu Asp Ile Gly Cys		
1025	1030	1035

<210> 25
<211> 243
<212> DNA
<213> Homo sapien

<220>
<221> CDS
<222> (1)...(243)

<400> 25

atg gca agc acc cgc tgc aag ctg gcc agg tac ctg gag gac ctg gag 48
Met Ala Ser Thr Arg Cys Lys Leu Ala Arg Tyr Leu Glu Asp Leu Glu
1 5 10 15

gat gtg gac ttg aag aaa ttt aag atg cac tta gag gac tat cct ccc 96
Asp Val Asp Leu Lys Lys Phe Lys Met His Leu Glu Asp Tyr Pro Pro
20 25 30

cag aag ggc tgc atc ccc ctc ccg agg ggt cag aca gag aag gca gac 144
Gln Lys Gly Cys Ile Pro Leu Pro Arg Gly Gln Thr Glu Lys Ala Asp
35 40 45

cat gtg gat cta gcc acg cta atg atc gac ttc aat ggg gag gag aag 192
His Val Asp Leu Ala Thr Leu Met Ile Asp Phe Asn Gly Glu Glu Lys
50 55 60

gcg tgg gcc atg gtc gtg tgg atc ttc gct gcg atc aac agg aga gac 240
Ala Trp Ala Met Val Val Trp Ile Phe Ala Ala Ile Asn Arg Arg Asp
65 70 75 80

ctt 243
Leu

<210> 26

<211> 81

<212> PRT

<213> Homo sapien

<400> 26

Met Ala Ser Thr Arg Cys Lys Leu Ala Arg Tyr Leu Glu Asp Leu Glu
1 5 10 15

Asp Val Asp Leu Lys Lys Phe Lys Met His Leu Glu Asp Tyr Pro Pro
20 25 30

Gln Lys Gly Cys Ile Pro Leu Pro Arg Gly Gln Thr Glu Lys Ala Asp
35 40 45

His Val Asp Leu Ala Thr Leu Met Ile Asp Phe Asn Gly Glu Glu Lys
50 55 60

Ala Trp Ala Met Val Val Trp Ile Phe Ala Ala Ile Asn Arg Arg Asp
65 70 75 80

Leu

<210> 27

<211> 270

<212> DNA

<213> Homo sapien

<220>

<221> CDS

<222> (1) ... (267)

<400> 27

atg gga acg aag cgc gag gcc atc ctg aag gtg ctg gag aac ctg aca 48
Met Gly Thr Lys Arg Glu Ala Ile Leu Lys Val Leu Glu Asn Leu Thr
1 5 10 15

ccg gag gag ctc aag aag ttc aag atg aag ctg ggg acg gtg ccg ctg 96
Pro Glu Glu Leu Lys Lys Phe Lys Met Lys Leu Gly Thr Val Pro Leu
20 25 30

cgc gag ggc ttt gag cgc atc ccg cgg ggc gcg ctc ggg cag cta gat 144
Arg Glu Gly Phe Glu Arg Ile Pro Arg Gly Ala Leu Gly Gln Leu Asp
35 40 45

atc gtg gac ctc acc gac aag ctg gtc gcc tcc tac tac gag gac tac 192
Ile Val Asp Leu Thr Asp Lys Leu Val Ala Ser Tyr Tyr Glu Asp Tyr
50 55 60

gca gcc gag ctc gtc gtg gcc gtg ctg cgc gac atg cgc atg ttg gag 240
Ala Ala Glu Leu Val Val Ala Val Leu Arg Asp Met Arg Met Leu Glu
65 70 75 80

gag gcc gca cgg ctg cag cgg gct gcg tga 270
Glu Ala Ala Arg Leu Gln Arg Ala Ala
85

<210> 28

<211> 89

<212> PRT

<213> Homo sapien

<400> 28

Met Gly Thr Lys Arg Glu Ala Ile Leu Lys Val Leu Glu Asn Leu Thr
1 5 10 15

Pro Glu Glu Leu Lys Lys Phe Lys Met Lys Leu Gly Thr Val Pro Leu
20 25 30

Arg Glu Gly Phe Glu Arg Ile Pro Arg Gly Ala Leu Gly Gln Leu Asp
35 40 45

Ile Val Asp Leu Thr Asp Lys Leu Val Ala Ser Tyr Tyr Glu Asp Tyr
50 55 60

Ala Ala Glu Leu Val Val Ala Val Leu Arg Asp Met Arg Met Leu Glu
65 70 75 80

Glu Ala Ala Arg Leu Gln Arg Ala Ala
85

<210> 29

<211> 6

<212> PRT

<213> Homo sapien

<220>
<221> VARIANT
<222> (4)...(5)
<223> Xaa=any amino acid

<221> VARIANT
<222> 4, 5
<223> Xaa = Any Amino Acid

<400> 29
Lys Phe Lys Xaa Xaa Leu
1 5

<210> 30
<211> 6
<212> PRT
<213> Homo sapien

<220>
<221> VARIANT
<222> (4)...(5)
<223> Xaa=any amino acid

<221> VARIANT
<222> 4, 5
<223> Xaa = Any Amino Acid

<400> 30
Lys Leu Lys Xaa Xaa Leu
1 5

<210> 31
<211> 6
<212> PRT
<213> Homo sapien

<220>
<221> VARIANT
<222> (4)...(5)
<223> Xaa=any amino acid

<221> VARIANT
<222> 4, 5
<223> Xaa = Any Amino Acid

<400> 31
Arg Phe Arg Xaa Xaa Leu
1 5

<210> 32
<211> 6
<212> PRT
<213> Homo sapien

<220>
<221> VARIANT
<222> (4)...(5)
<223> Xaa=any amino acid

<221> VARIANT
<222> 4, 5
<223> Xaa = Any Amino Acid

<400> 32
Arg Phe Lys Xaa Xaa Leu
1 5

<210> 33
<211> 6
<212> PRT
<213> Homo sapien

<220>
<221> VARIANT
<222> (4)...(5)
<223> Xaa=any amino acid

<221> VARIANT
<222> 4, 5
<223> Xaa = Any Amino Acid

<400> 33
Lys Phe Arg Xaa Xaa Leu
1 5

<210> 34
<211> 6
<212> PRT
<213> Homo sapien

<220>
<221> VARIANT
<222> (4)...(5)
<223> Xaa=any amino acid

<221> VARIANT
<222> 4, 5
<223> Xaa = Any Amino Acid

<400> 34

Lys Phe Lys Xaa Xaa Ile
1 5

<210> 35
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic primer

<400> 35
ccggaattca ccatggcagc ctctttcttc tctgatttt

39

<210> 36
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic primer

<400> 36
ccgctcgagt cacgttaggc tgggttcatc ctctttctta a

41

<210> 37
<211> 319
<212> PRT
<213> Homo sapiens

<400> 37
Gln Pro Arg Thr Val Ile Ile Gln Gly Pro Gln Gly Ile Gly Lys Thr
1 5 10 15
Thr Leu Leu Met Lys Leu Met Met Ala Trp Ser Asp Asn Lys Ile Phe
20 25 30
Arg Asp Arg Phe Leu Tyr Thr Phe Tyr Phe Cys Cys Arg Glu Leu Arg
35 40 45
Glu Leu Pro Pro Thr Ser Leu Ala Asp Leu Ile Ser Arg Glu Trp Pro
50 55 60
Asp Pro Ala Ala Pro Ile Thr Glu Ile Val Ser Gln Pro Glu Arg Leu
65 70 75 80
Leu Phe Val Ile Asp Ser Phe Glu Glu Leu Gln Gly Gly Leu Asn Glu
85 90 95
Pro Asp Ser Asp Leu Cys Gly Asp Leu Met Glu Lys Arg Pro Val Gln
100 105 110
Val Leu Leu Ser Ser Leu Leu Arg Lys Lys Met Leu Pro Glu Ala Ser
115 120 125
Leu Leu Ile Ala Ile Lys Pro Val Cys Pro Lys Glu Leu Arg Asp Gln
130 135 140
Val Thr Ile Ser Glu Ile Tyr Gln Pro Arg Gly Phe Asn Glu Ser Asp
145 150 155 160
Arg Leu Val Tyr Phe Cys Cys Phe Phe Lys Asp Pro Lys Arg Ala Met

165	170	175
Glu Ala Phe Asn Leu Val Arg Glu Ser Glu Gln Leu Phe Ser Ile Cys		
180	185	190
Gln Ile Pro Leu Leu Cys Trp Ile Leu Cys Thr Ser Leu Lys Gln Glu		
195	200	205
Met Gln Lys Gly Lys Asp Leu Ala Leu Thr Cys Gln Ser Thr Thr Ser		
210	215	220
Val Tyr Ser Ser Phe Val Phe Asn Leu Phe Thr Pro Glu Gly Ala Glu		
225	230	235
Gly Pro Thr Pro Gln Thr Gln His Gln Leu Lys Ala Leu Cys Ser Leu		
245	250	255
Ala Ala Glu Gly Met Trp Thr Asp Thr Phe Glu Phe Cys Glu Asp Asp		
260	265	270
Leu Arg Arg Asn Gly Val Val Asp Ala Asp Ile Pro Ala Leu Leu Gly		
275	280	285
Thr Lys Ile Leu Leu Lys Tyr Gly Glu Arg Glu Ser Ser Tyr Val Phe		
290	295	300
Leu His Val Cys Ile Gln Glu Phe Cys Ala Ala Leu Phe Tyr Leu		
305	310	315

<210> 38
<211> 270
<212> PRT
<213> Homo sapiens

<400> 38

Ser Ile Cys Gln Ile Pro Leu Leu Cys Trp Ile Leu Cys Thr Ser Leu		
1	5	10
Lys Gln Glu Met Gln Lys Gly Lys Asp Leu Ala Leu Thr Cys Gln Ser		
20	25	30
Thr Thr Ser Val Tyr Ser Ser Phe Val Phe Asn Leu Phe Thr Pro Glu		
35	40	45
Gly Ala Glu Gly Pro Thr Pro Gln Thr Gln His Gln Leu Lys Ala Leu		
50	55	60
Cys Ser Leu Ala Ala Glu Gly Met Trp Thr Asp Thr Phe Glu Phe Cys		
65	70	75
Glu Asp Asp Leu Arg Arg Asn Gly Val Val Asp Ala Asp Ile Pro Ala		
85	90	95
Leu Leu Gly Thr Lys Ile Leu Leu Lys Tyr Gly Glu Arg Glu Ser Ser		
100	105	110
Tyr Val Phe Leu His Val Cys Ile Gln Glu Phe Cys Ala Ala Leu Phe		
115	120	125
Tyr Leu Leu Lys Ser His Leu Asp His Pro His Pro Ala Val Arg Cys		
130	135	140
Val Gln Glu Leu Leu Val Ala Asn Phe Glu Lys Ala Arg Arg Ala His		
145	150	155
Trp Ile Phe Leu Gly Cys Phe Leu Thr Gly Leu Leu Asn Lys Lys Glu		
165	170	175
Gln Glu Lys Leu Asp Ala Phe Phe Gly Phe Gln Leu Ser Gln Glu Ile		
180	185	190
Lys Gln Gln Ile His Gln Cys Leu Lys Ser Leu Gly Glu Arg Gly Asn		
195	200	205

Pro Gln Gly Gln Val Asp Ser Leu Ala Ile Phe Tyr Cys Leu Phe Glu
210 215 220
Met Gln Asp Pro Ala Phe Val Lys Gln Ala Val Asn Leu Leu Gln Glu
225 230 235 240
Ala Asn Phe His Ile Ile Asp Asn Val Asp Leu Val Val Ser Ala Tyr
245 250 255
Cys Leu Lys Tyr Cys Ser Ser Leu Arg Lys Leu Cys Phe Ser
260 265 270

<210> 39
<211> 375
<212> PRT
<213> Homo sapiens

<400> 39
Ser Asp Tyr Ser Leu Ile Cys Trp His His Ile Cys Ser Val Leu Thr
1 5 10 15
Thr Ser Gly His Leu Arg Glu Leu Gln Val Gln Asp Ser Thr Leu Ser
20 25 30
Glu Ser Thr Phe Val Thr Trp Cys Asn Gln Leu Arg His Pro Ser Cys
35 40 45
Arg Leu Gln Lys Leu Gly Ile Asn Asn Val Ser Phe Ser Gly Gln Ser
50 55 60
Val Leu Leu Phe Glu Val Leu Phe Tyr Gln Pro Asp Leu Lys Tyr Leu
65 70 75 80
Ser Phe Thr Leu Thr Lys Leu Ser Arg Asp Asp Ile Arg Ser Leu Cys
85 90 95
Asp Ala Leu Asn Tyr Pro Ala Gly Asn Val Lys Glu Leu Ala Leu Val
100 105 110
Asn Cys His Leu Ser Pro Ile Asp Cys Glu Val Leu Ala Gly Leu Leu
115 120 125
Thr Asn Asn Lys Leu Thr Tyr Leu Asn Val Ser Cys Asn Gln Leu
130 135 140
Asp Thr Gly Val Pro Leu Leu Cys Glu Ala Leu Cys Ser Pro Asp Thr
145 150 155 160
Val Leu Val Tyr Leu Met Leu Ala Phe Cys His Leu Ser Glu Gln Cys
165 170 175
Cys Glu Tyr Ile Ser Glu Met Leu Leu Arg Asn Lys Ser Val Arg Tyr
180 185 190
Leu Asp Leu Ser Ala Asn Val Leu Lys Asp Glu Gly Leu Lys Thr Leu
195 200 205
Cys Glu Ala Leu Lys His Pro Asp Cys Cys Leu Asp Ser Leu Cys Leu
210 215 220
Val Lys Cys Phe Ile Thr Ala Ala Gly Cys Glu Asp Leu Ala Ser Ala
225 230 235 240
Leu Ile Ser Asn Gln Asn Leu Lys Ile Leu Gln Ile Gly Cys Asn Glu
245 250 255
Ile Gly Asp Val Gly Val Gln Leu Leu Cys Arg Ala Leu Thr His Thr
260 265 270
Asp Cys Arg Leu Glu Ile Leu Gly Leu Glu Glu Cys Gly Leu Thr Ser
275 280 285
Thr Cys Lys Asp Leu Ala Ser Val Leu Thr Cys Ser Lys Thr Leu

290	295	300													
Gln	Gln	Leu	Asn	Leu	Thr	Leu	Asn	Thr	Leu	Asp	His	Thr	Gly	Val	Val
305		310					315					320			
Val	Leu	Cys	Glu	Ala	Leu	Arg	His	Pro	Glu	Cys	Ala	Leu	Gln	Val	Leu
		325					330					335			
Gly	Leu	Arg	Lys	Thr	Asp	Phe	Asp	Glu	Glu	Thr	Gln	Ala	Leu	Leu	Thr
		340					345					350			
Ala	Glu	Glu	Glu	Arg	Asn	Pro	Asn	Leu	Thr	Ile	Thr	Asp	Asp	Cys	Asp
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gaattcctct gggccttgag tgaccttgag 30

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21

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21

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31

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29

<210> 58

<211> 2524

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<220>

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<222> (176) ... (2332)

<221> misc_feature

<222> (306) ... (458)

<223> n = A, T, C or G

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tgataattt aatctctcaa agtggagact ttaaaaaaga ctcatccgtg tgccgtgttc 120
actgcctggat atcttagtgt ggaccgaagc ctaaggaccc tggaaacagc tgcag atg 178

Met

1

aag atg gca agc acc cgc tgc aag ctg gcc agg tac ctg gag gac ctg 226
Lys Met Ala Ser Thr Arg Cys Lys Leu Ala Arg Tyr Leu Glu Asp Leu
5 10 15

gag gat gtg gac ttg aag aaa ttt aag atg cac tta gag gac tat cct 274
Glu Asp Val Asp Leu Lys Lys Phe Lys Met His Leu Glu Asp Tyr Pro
20 25 30

ccc cag aag ggc tgc atc ccc ctc ccg agg gnn nnn nnn nnn nnn nnn 322
Pro Gln Lys Gly Cys Ile Pro Leu Pro Arg Kaa Xaa Xaa Xaa Xaa Xaa
35 40 45

nnn 370
Xaa
50 55 60 65

nnn 418
Xaa
70 75 80

nnn ngt tca gat 466
Xaa Ser Asp
85 90 95

aat gca cgt gtt tcg aat ccc act gtg ata tgc cag gaa gac agc att 514
Asn Ala Arg Val Ser Asn Pro Thr Val Ile Cys Gln Glu Asp Ser Ile
100 105 110

gaa gag gag tgg atg ggt tta ctg gag tac ctt tcg aga atc tct att 562
Glu Glu Glu Trp Met Gly Leu Leu Glu Tyr Leu Ser Arg Ile Ser Ile
115 120 125

tgt aaa atg aag aaa gat tac cgt aag aag tac aga aag tac gtg aga 610
Cys Lys Met Lys Lys Asp Tyr Arg Lys Lys Tyr Arg Lys Tyr Val Arg

130	135	140	145	
agc aga ttc cag tgc att gaa gac agg aat gcc cgt ctg ggt gag agt				658
Ser Arg Phe Gln Cys Ile Glu Asp Arg Asn Ala Arg Leu Gly Glu Ser				
150	155		160	
gtg agc ctc aac aaa cgc tac aca cga ctg cgt ctc atc aag gag cac				706
Val Ser Leu Asn Lys Arg Tyr Thr Arg Leu Arg Leu Ile Lys Glu His				
165	170		175	
cgg agc cag cag gag agg cag gag ctt ctg gcc atc ggc aag acc				754
Arg Ser Gin Gln Glu Arg Glu Gln Glu Leu Leu Ala Ile Gly Lys Thr				
180	185		190	
aag acg tgt gag agc ccc gtg agt ccc att aag atg gag ttg ctg ttt				802
Lys Thr Cys Glu Ser Pro Val Ser Pro Ile Lys Met Glu Leu Leu Phe				
195	200		205	
gac ccc gat gat gag cat tct gag cct gtg cac acc gtg gtg ttc cag				850
Asp Pro Asp Asp Glu His Ser Glu Pro Val His Thr Val Val Phe Gln				
210	215		220	225
ggg gcg gca ggg att ggg aaa aca atc ctg gcc agg aag atg atg ttg				898
Gly Ala Ala Gly Ile Gly Lys Thr Ile Leu Ala Arg Lys Met Met Leu				
230	235		240	
gac tgg gcg tcg ggg aca ctc tac caa gac agg ttt gac tat ctg ttc				946
Asp Trp Ala Ser Gly Thr Leu Tyr Gln Asp Arg Phe Asp Tyr Leu Phe				
245	250		255	
tat atc cac tgt cga gag gtg agc ctt gtg aca cag agg agc ctg ggg				994
Tyr Ile His Cys Arg Glu Val Ser Leu Val Thr Gln Arg Ser Leu Gly				
260	265		270	
gac ctg atc atg agc tgc tgc ccc gac cca aac cca ccc atc cac aag				1042
Asp Leu Ile Met Ser Cys Cys Pro Asp Pro Asn Pro Pro Ile His Lys				
275	280		285	
atc gtg aga aaa ccc tcc aga atc ctc ttc ctc atg gac ggc ttc gat				1090
Ile Val Arg Lys Pro Ser Arg Ile Leu Phe Leu Met Asp Gly Phe Asp				
290	295		300	305
gag ctg caa ggt gcc ttt gac gag cac ata gga ccg ctc tgc act gac				1138
Glu Leu Gln Gly Ala Phe Asp Glu His Ile Gly Pro Leu Cys Thr Asp				
310	315		320	
tgg cag aag gcc gag cgg gga gac att ctc ctg agc agc ctc atc aga				1186
Trp Gln Lys Ala Glu Arg Gly Asp Ile Leu Leu Ser Ser Leu Ile Arg				
325	330		335	
aag aag ctg ctt ccc gag gcc tct ctg ctc atc acc acg aga cct gtg				1234
Lys Lys Leu Leu Pro Glu Ala Ser Leu Leu Ile Thr Thr Arg Pro Val				
340	345		350	

gcc	ctg	gag	aaa	ctg	cag	cac	ttg	ctg	gac	cat	cct	cg	cat	gtg	gag	1282
Ala	Leu	Glu	Lys	Leu	Gln	His	Leu	Leu	Asp	His	Pro	Arg	His	Val	Glu	
355							360								365	
atc	ctg	ggt	ttc	tcc	gag	gcc	aaa	agg	aaa	gag	tac	ttc	ttc	aag	tac	1330
Ile	Leu	Gly	Phe	Ser	Glu	Ala	Lys	Arg	Lys	Glu	Tyr	Phe	Phe	Lys	Tyr	
370							375				380				385	
ttc	tct	gat	gag	gcc	caa	gcc	agg	gca	gcc	ttc	agt	ctg	att	cag	gag	1378
Phe	Ser	Asp	Glu	Ala	Gln	Ala	Arg	Ala	Ala	Phe	Ser	Leu	Ile	Gln	Glu	
							390				395				400	
aac	gag	gtc	ctc	ttc	acc	atg	tgc	ttc	atc	ccc	ctg	gtc	tgc	tgg	atc	1426
Asn	Glu	Val	Leu	Phe	Thr	Met	Cys	Phe	Ile	Pro	Leu	Val	Cys	Trp	Ile	
							405				410				415	
gtg	tgc	act	gga	ctg	aaa	cag	cag	atg	gag	agt	ggc	aag	agc	ctt	gcc	1474
Val	Cys	Thr	Gly	Leu	Lys	Gln	Gln	Met	Glu	Ser	Gly	Lys	Ser	Leu	Ala	
							420				425				430	
cag	aca	tcc	aag	acc	acc	acc	gcg	gtg	tac	gtc	ttc	ttc	ctt	tcc	agt	1522
Gln	Thr	Ser	Lys	Thr	Thr	Thr	Ala	Val	Tyr	Val	Phe	Phe	Leu	Ser	Ser	
							435				440				445	
ttg	ctg	cag	ccc	cg	gga	ggg	agc	cag	gag	cac	ggc	ctc	tgc	gcc	cac	1570
Leu	Leu	Gln	Pro	Arg	Gly	Gly	Ser	Gln	Glu	His	Gly	Leu	Cys	Ala	His	
							450				455				460	
465																
ctc	tgg	ggg	ctc	tgc	tct	ttg	gct	gca	gat	gga	atc	tgg	aac	cag	aaa	1618
Leu	Trp	Gly	Leu	Cys	Ser	Leu	Ala	Ala	Asp	Gly	Ile	Trp	Asn	Gln	Lys	
							470				475				480	
atc	ctg	ttt	gag	gag	tcc	gac	ctc	agg	aat	cat	gga	ctg	cag	aag	gcg	1666
Ile	Leu	Phe	Glu	Ser	Asp	Leu	Arg	Asn	His	Gly	Leu	Gln	Lys	Ala		
							485				490				495	
gat	gtg	tct	gct	ttc	ctg	agg	atg	aac	ctg	ttc	caa	aag	gaa	gtg	gac	1714
Asp	Val	Ser	Ala	Phe	Leu	Arg	Met	Asn	Leu	Phe	Gln	Lys	Glu	Val	Asp	
							500				505				510	
tgc	gag	aag	ttc	tac	agc	ttc	atc	cac	atg	act	ttc	cag	gag	ttc	ttt	1762
Cys	Glu	Lys	Phe	Tyr	Ser	Phe	Ile	His	Met	Thr	Phe	Gln	Glu	Phe	Phe	
							515				520				525	
gcc	gcc	atg	tac	tac	ctg	ctg	gaa	gag	aag	gaa	gga	agg	acg	aac	1810	
Ala	Ala	Met	Tyr	Tyr	Leu	Leu	Glu	Glu	Lys	Glu	Gly	Arg	Thr	Asn		
							530				535				540	
545																
gtt	cca	ggg	agt	cgt	ttg	aag	ctt	ccc	agc	cga	gac	gtg	aca	gtc	ctt	1858
Val	Pro	Gly	Ser	Arg	Leu	Lys	Leu	Pro	Ser	Arg	Asp	Val	Thr	Val	Leu	
							550				555				560	

ctg gaa aac tat ggc aaa ttc gaa aag ggg tat ttg att ttt gtt gta 1906
Leu Glu Asn Tyr Gly Lys Phe Glu Lys Gly Tyr Leu Ile Phe Val Val
565 570 575

cgt ttc ctc ttt ggc ctg gta aac cag gag agg acc tcc tac ttg gag 1954
Arg Phe Leu Phe Gly Leu Val Asn Gln Glu Arg Thr Ser Tyr Leu Glu
580 585 590

aag aaa tta agt tgc aag atc tct cag caa atc agg ctg gag ctg ctg 2002
Lys Lys Leu Ser Cys Lys Ile Ser Gln Gln Ile Arg Leu Glu Leu Leu
595 600 605

aaa tgg att gaa gtg aaa gcc aaa gct aaa aag ctg cag atc cag ccc 2050
Lys Trp Ile Glu Val Lys Ala Lys Lys Leu Gln Ile Gln Pro
610 615 620 625

agc cag ctg gaa ttg ttc tac tgt ttg tac gag atg cag gag gag gac 2098
Ser Gln Leu Glu Leu Phe Tyr Cys Leu Tyr Glu Met Gln Glu Glu Asp
630 635 640

ttc gtg caa agg gcc atg gac tat ttc ccc aag att gag atc aat ctc 2146
Phe Val Gln Arg Ala Met Asp Tyr Phe Pro Lys Ile Glu Ile Asn Leu
645 650 655

tcc acc aga atg gac cac atg gtt tct tcc ttt tgc att gag aac tgt 2194
Ser Thr Arg Met Asp His Met Val Ser Ser Phe Cys Ile Glu Asn Cys
660 665 670

cat cgg gtg gag tca ctg tcc ctg ggg ttt ctc cat aac atg ccc aag 2242
His Arg Val Glu Ser Leu Ser Leu Gly Phe Leu His Asn Met Pro Lys
675 680 685

gag gaa gag gag gaa aag gaa ggc cga cac ctt gat atg gtg cag 2290
Glu Glu Glu Glu Glu Lys Glu Gly Arg His Leu Asp Met Val Gln
690 695 700 705

tgt gtc ctc cca agc tcc tct cat gct gcc tgt tct cat ggg 2332
Cys Val Leu Pro Ser Ser His Ala Ala Cys Ser His Gly
710 715

taaggaaact cggcttccag gtgcttcctc ctgcttcctc gccagcttct tcttggcgct 2392
tgccttcctc catctttttt caactatctt ccaaatactg ttgccacagc tacatctaa 2452
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<212> PRT
<213> Homo sapiens

<220>
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59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71

<223> Xaa = Any Amino Acid

<221> VARIANT

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87, 88, 89, 90, 91, 92, 93, 94, 95

<223> Xaa = Any Amino Acid

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	20							25							30
Pro	Pro	Gln	Lys	Gly	Cys	Ile	Pro	Leu	Pro	Arg	Xaa	Xaa	Xaa	Xaa	Xaa
		35						40							45
Xaa															
	50							55							60
Xaa															
	65							70							80
Xaa	Ser														
		85						90							95
Asp	Asn	Ala	Arg	Val	Ser	Asn	Pro	Thr	Val	Ile	Cys	Gln	Glu	Asp	Ser
		100						105							110
Ile	Glu	Glu	Glu	Trp	Met	Gly	Leu	Leu	Glu	Tyr	Leu	Ser	Arg	Ile	Ser
		115						120							125
Ile	Cys	Lys	Met	Lys	Lys	Asp	Tyr	Arg	Lys	Lys	Tyr	Arg	Lys	Tyr	Val
		130						135							140
Arg	Ser	Arg	Phe	Gln	Cys	Ile	Glu	Asp	Arg	Asn	Ala	Arg	Leu	Gly	Glu
	145							150							160
Ser	Val	Ser	Leu	Asn	Lys	Arg	Tyr	Thr	Arg	Leu	Arg	Leu	Ile	Lys	Glu
		165						170							175
His	Arg	Ser	Gln	Gln	Glu	Arg	Glu	Gln	Glu	Leu	Leu	Ala	Ile	Gly	Lys
		180						185							190
Thr	Lys	Thr	Cys	Glu	Ser	Pro	Val	Ser	Pro	Ile	Lys	Met	Glu	Leu	Leu
		195						200							205
Phe	Asp	Pro	Asp	Asp	Glu	His	Ser	Glu	Pro	Val	His	Thr	Val	Val	Phe
		210						215							220
Gln	Gly	Ala	Ala	Gly	Ile	Gly	Lys	Thr	Ile	Leu	Ala	Arg	Lys	Met	Met
	225							230							240
Leu	Asp	Trp	Ala	Ser	Gly	Thr	Leu	Tyr	Gln	Asp	Arg	Phe	Asp	Tyr	Leu
		245						250							255
Phe	Tyr	Ile	His	Cys	Arg	Glu	Val	Ser	Leu	Val	Thr	Gln	Arg	Ser	Leu
		260						265							270
Gly	Asp	Leu	Ile	Met	Ser	Cys	Cys	Pro	Asp	Pro	Asn	Pro	Pro	Ile	His
		275						280							285
Lys	Ile	Val	Arg	Lys	Pro	Ser	Arg	Ile	Leu	Phe	Leu	Met	Asp	Gly	Phe
		290						295							300
Asp	Glu	Leu	Gln	Gly	Ala	Phe	Asp	Glu	His	Ile	Gly	Pro	Leu	Cys	Thr
	305							310							320
Asp	Trp	Gln	Lys	Ala	Glu	Arg	Gly	Asp	Ile	Leu	Leu	Ser	Ser	Leu	Ile
		325						330							335
Arg	Lys	Lys	Leu	Leu	Pro	Glu	Ala	Ser	Leu	Leu	Ile	Thr	Thr	Arg	Pro
		340						345							350

Val Ala Leu Glu Lys Leu Gln His Leu Leu Asp His Pro Arg His Val
355 360 365
Glu Ile Leu Gly Phe Ser Glu Ala Lys Arg Lys Glu Tyr Phe Phe Lys
370 375 380
Tyr Phe Ser Asp Glu Ala Gln Ala Arg Ala Ala Phe Ser Leu Ile Gln
385 390 395 400
Glu Asn Glu Val Leu Phe Thr Met Cys Phe Ile Pro Leu Val Cys Trp
405 410 415
Ile Val Cys Thr Gly Leu Lys Gln Gln Met Glu Ser Gly Lys Ser Leu
420 425 430
Ala Gln Thr Ser Lys Thr Thr Ala Val Tyr Val Phe Phe Leu Ser
435 440 445
Ser Leu Leu Gln Pro Arg Gly Gly Ser Gln Glu His Gly Leu Cys Ala
450 455 460
His Leu Trp Gly Leu Cys Ser Leu Ala Ala Asp Gly Ile Trp Asn Gln
465 470 475 480
Lys Ile Leu Phe Glu Glu Ser Asp Leu Arg Asn His Gly Leu Gln Lys
485 490 495
Ala Asp Val Ser Ala Phe Leu Arg Met Asn Leu Phe Gln Lys Glu Val
500 505 510
Asp Cys Glu Lys Phe Tyr Ser Phe Ile His Met Thr Phe Gln Glu Phe
515 520 525
Phe Ala Ala Met Tyr Tyr Leu Leu Glu Glu Lys Glu Gly Arg Thr
530 535 540
Asn Val Pro Gly Ser Arg Leu Lys Leu Pro Ser Arg Asp Val Thr Val
545 550 555 560
Leu Leu Glu Asn Tyr Gly Lys Phe Glu Lys Gly Tyr Leu Ile Phe Val
565 570 575
Val Arg Phe Leu Phe Gly Leu Val Asn Gln Glu Arg Thr Ser Tyr Leu
580 585 590
Glu Lys Lys Leu Ser Cys Lys Ile Ser Gln Gln Ile Arg Leu Glu Leu
595 600 605
Leu Lys Trp Ile Glu Val Lys Ala Lys Ala Lys Lys Leu Gln Ile Gln
610 615 620
Pro Ser Gln Leu Glu Leu Phe Tyr Cys Leu Tyr Glu Met Gln Glu Glu
625 630 635 640
Asp Phe Val Gln Arg Ala Met Asp Tyr Phe Pro Lys Ile Glu Ile Asn
645 650 655
Leu Ser Thr Arg Met Asp His Met Val Ser Ser Phe Cys Ile Glu Asn
660 665 670
Cys His Arg Val Glu Ser Leu Ser Leu Gly Phe Leu His Asn Met Pro
675 680 685
Lys Glu Glu Glu Glu Glu Lys Glu Gly Arg His Leu Asp Met Val
690 695 700
Gln Cys Val Leu Pro Ser Ser Ser His Ala Ala Cys Ser His Gly
705 710 715

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<211> 317
<212> PRT
<213> Homo sapiens

<400> 60

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Ala Lys Lys Ile Leu Tyr Asp Trp Ala Ala Gly Lys Leu Tyr Gln Gly
20 25 30
Gln Val Asp Phe Ala Phe Phe Met Pro Cys Gly Glu Leu Leu Glu Arg
35 40 45
Pro Gly Thr Arg Ser Leu Ala Asp Leu Ile Leu Asp Gln Cys Pro Asp
50 55 60
Arg Gly Ala Pro Val Pro Gln Met Leu Ala Gln Pro Gln Arg Leu Leu
65 70 75 80
Phe Ile Leu Asp Gly Ala Asp Glu Leu Pro Ala Leu Gly Gly Pro Glu
85 90 95
Ala Ala Pro Cys Thr Asp Pro Phe Glu Ala Ala Ser Gly Ala Arg Val
100 105 110
Leu Gly Gly Leu Leu Ser Lys Ala Leu Leu Pro Thr Ala Leu Leu Leu
115 120 125
Val Thr Thr Arg Ala Ala Ala Pro Gly Arg Leu Gln Gly Arg Leu Cys
130 135 140
Ser Pro Gln Cys Ala Glu Val Arg Gly Phe Ser Asp Lys Asp Lys Lys
145 150 155 160
Lys Tyr Phe Tyr Lys Phe Phe Arg Asp Glu Arg Arg Ala Glu Arg Ala
165 170 175
Tyr Arg Phe Val Lys Glu Asn Glu Thr Leu Phe Ala Leu Cys Phe Val
180 185 190
Pro Phe Val Cys Trp Ile Val Cys Thr Val Leu Arg Gln Gln Leu Glu
195 200 205
Leu Gly Arg Asp Leu Ser Arg Thr Ser Lys Thr Thr Ser Val Tyr
210 215 220
Leu Leu Phe Ile Thr Ser Val Leu Ser Ser Ala Pro Val Ala Asp Gly
225 230 235 240
Pro Arg Leu Gln Gly Asp Leu Arg Asn Leu Cys Arg Leu Ala Arg Glu
245 250 255
Gly Val Leu Gly Arg Arg Ala Gln Phe Ala Glu Lys Glu Leu Glu Gln
260 265 270
Leu Glu Leu Arg Gly Ser Lys Val Gln Thr Leu Phe Leu Ser Lys Lys
275 280 285
Glu Leu Pro Gly Val Leu Glu Thr Glu Val Thr Tyr Gln Phe Ile Asp
290 295 300
Gln Ser Phe Gln Glu Phe Leu Ala Ala Leu Ser Tyr Leu
305 310 315

<210> 61

<211> 290

<212> PRT

<213> Homo sapiens

<400> 61

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Leu Ile Ser Cys Arg Leu Val Ala Ala Gln Glu Lys Lys Lys Ser
20 25 30

Leu Gly Lys Arg Leu Gln Ala Ser Leu Gly Gly Gly Ser Trp Leu Gly
35 40 45
Thr Gln Leu Ala Pro Glu Val Pro Phe Arg Pro Pro Cys Cys Asp Ile
50 55 60
Cys Pro Thr Pro Pro Asp Pro Arg Leu Leu Gln Gly Lys Ala Phe
65 70 75 80
Ala Arg Val Pro Leu Asn Ile Ala Pro Ile Gln Pro Leu Pro Arg Gly
85 90 95
Leu Ala Ser Val Glu Arg Met Asn Val Thr Val Leu Ala Gly Ala Gly
100 105 110
Pro Gly Asp Pro Lys Thr His Ala Met Thr Asp Pro Leu Cys His Leu
115 120 125
Ser Ser Leu Thr Leu Ser His Cys Lys Leu Pro Asp Ala Val Cys Arg
130 135 140
Asp Leu Ser Glu Ala Leu Arg Ala Ala Pro Ala Leu Thr Glu Leu Gly
145 150 155 160
Leu Leu His Asn Arg Leu Ser Glu Ala Gly Leu Arg Met Leu Ser Glu
165 170 175
Gly Leu Ala Trp Pro Gln Cys Arg Val Gln Thr Val Arg Val Gln Leu
180 185 190
Pro Asp Pro Gln Arg Gly Leu Gln Tyr Leu Val Gly Met Leu Arg Gln
195 200 205
Ser Pro Ala Leu Thr Thr Leu Asp Leu Ser Gly Cys Gln Leu Pro Ala
210 215 220
Pro Met Val Thr Tyr Leu Cys Ala Val Leu Gln His Gln Gly Cys Gly
225 230 235 240
Leu Gln Thr Leu Ser Leu Ala Ser Val Glu Leu Ser Glu Gln Ser Leu
245 250 255
Gln Glu Leu Gln Ala Val Lys Arg Ala Lys Pro Asp Leu Val Ile Thr
260 265 270
His Pro Ala Leu Asp Gly His Pro Gln Pro Pro Lys Glu Leu Ile Ser
275 280 285
Thr Phe
290

<210> 62
<211> 181
<212> PRT
<213> Homo sapiens

<400> 62
Ile Cys Leu His Gly Val Gly Trp His Trp Lys Asp Asn Ser Arg Gln
1 5 10 15
Lys Lys Val Leu Asp Trp Ala Thr Gly Thr Leu Tyr Pro Gly Arg Phe
20 25 30
Asp Tyr Val Phe Tyr Val Ser Cys Lys Glu Val Val Leu Leu Leu Glu
35 40 45
Ser Lys Leu Glu Gln Leu Leu Phe Trp Cys Cys Gly Asp Asn Gln Ala
50 55 60
Pro Val Thr Glu Ile Leu Arg Gln Pro Glu Arg Leu Leu Phe Ile Leu
65 70 75 80
Asp Gly Phe Asp Glu Leu Gln Arg Pro Phe Glu Glu Lys Leu Lys Lys

85	90	95
Arg Gly Leu Ser Pro Lys Glu Ser Leu Leu His Leu Leu Ile Arg Arg		
100	105	110
His Thr Leu Pro Thr Cys Ser Leu Leu Ile Thr Thr Arg Pro Leu Ala		
115	120	125
Leu Arg Asn Leu Glu Pro Leu Leu Lys Gln Ala Arg His Val His Ile		
130	135	140
Leu Gly Phe Ser Glu Glu Glu Arg Ala Arg Tyr Phe Ser Ser Tyr Phe		
145	150	155
Thr Asp Glu Lys Gln Ala Asp Arg Ala Phe Asp Ile Val Gln Lys Asn		
165	170	175
Asp Ile Leu Tyr Lys		
180		

<210> 63
<211> 190
<212> PRT
<213> Homo sapiens

400	63		
Pro Arg Thr Val Val Met Gln Gly Ala Ala Gly Ile Gly Lys Ser Met			
1	5	10	15
Leu Ala His Lys Val Met Leu Asp Trp Ala Asp Gly Lys Leu Phe Gln			
20	25	30	
Gly Arg Phe Asp Tyr Leu Phe Tyr Ile Asn Cys Arg Glu Met Asn Gln			
35	40	45	
Ser Ala Thr Glu Cys Ser Met Gln Asp Leu Ile Phe Ser Cys Trp Pro			
50	55	60	
Glu Pro Ser Ala Pro Leu Gln Glu Leu Ile Arg Val Pro Glu Arg Leu			
65	70	75	80
Leu Phe Ile Ile Asp Gly Phe Asp Glu Leu Lys Pro Ser Phe His Asp			
85	90	95	
Pro Gln Gly Pro Trp Cys Leu Cys Trp Glu Glu Lys Arg Pro Thr Glu			
100	105	110	
Leu Leu Leu Asn Ser Leu Ile Arg Lys Lys Leu Leu Pro Glu Leu Ser			
115	120	125	
Leu Leu Ile Thr Thr Arg Pro Thr Ala Leu Glu Lys Leu His Arg Leu			
130	135	140	
Leu Glu His Pro Arg His Val Glu Ile Leu Gly Phe Ser Glu Ala Glu			
145	150	155	160
Arg Lys Glu Tyr Phe Tyr Lys Tyr Phe His Asn Ala Glu Gln Ala Gly			
165	170	175	
Gln Val Phe Asn Tyr Val Arg Asp Asn Glu Pro Leu Phe Thr			
180	185	190	

<210> 64
<211> 603
<212> PRT
<213> Homo sapiens

<400> 64

Pro Asn Gln Arg Gly Leu Cys Ser Leu Ala Ala Asp Gly Leu Trp Asn
1 5 10 15
Gln Lys Ile Leu Phe Glu Glu Gln Asp Leu Arg Lys His Gly Leu Asp
20 25 30
Gly Glu Asp Val Ser Ala Phe Leu Asn Met Asn Ile Phe Gln Lys Asp
35 40 45
Ile Asn Cys Glu Arg Tyr Tyr Ser Phe Ile His Leu Ser Phe Gln Glu
50 55 60
Phe Phe Ala Ala Met Tyr Tyr Ile Leu Asp Glu Gly Glu Gly Ala
65 70 75 80
Gly Pro Asp Gln Asp Val Thr Arg Leu Leu Thr Glu Tyr Ala Phe Ser
85 90 95
Glu Arg Ser Phe Leu Ala Leu Thr Ser Arg Phe Leu Phe Gly Leu Leu
100 105 110
Asn Glu Glu Thr Arg Ser His Leu Glu Lys Ser Leu Cys Trp Lys Val
115 120 125
Ser Pro His Ile Lys Met Asp Leu Leu Gln Trp Ile Gln Ser Lys Ala
130 135 140
Gln Ser Asp Gly Ser Thr Leu Gln Gln Gly Ser Leu Glu Phe Phe Ser
145 150 155 160
Cys Leu Tyr Glu Ile Gln Glu Glu Phe Ile Gln Gln Ala Leu Ser
165 170 175
His Phe Gln Val Ile Val Val Ser Asn Ile Ala Ser Lys Met Glu His
180 185 190
Met Val Ser Ser Phe Cys Leu Lys Arg Cys Arg Ser Ala Gln Val Leu
195 200 205
His Leu Tyr Gly Ala Thr Tyr Ser Ala Asp Gly Glu Asp Arg Ala Arg
210 215 220
Cys Ser Ala Gly Ala His Thr Leu Leu Val Gln Leu Arg Pro Glu Arg
225 230 235 240
Thr Val Leu Leu Asp Ala Tyr Ser Glu His Leu Ala Ala Leu Cys
245 250 255
Thr Asn Pro Asn Leu Ile Glu Leu Ser Leu Tyr Arg Asn Ala Leu Gly
260 265 270
Ser Arg Gly Val Lys Leu Leu Cys Gln Gly Leu Arg His Pro Asn Cys
275 280 285
Lys Leu Gln Asn Leu Arg Leu Lys Arg Cys Arg Ile Ser Ser Ala
290 295 300
Cys Glu Asp Leu Ser Ala Ala Leu Ile Ala Asn Lys Asn Leu Thr Arg
305 310 315 320
Met Asp Leu Ser Gly Asn Gly Val Gly Phe Pro Gly Met Met Leu Leu
325 330 335
Cys Glu Gly Leu Arg His Pro Gln Cys Arg Leu Gln Met Ile Gln Leu
340 345 350
Arg Lys Cys Gln Leu Glu Ser Gly Ala Cys Gln Glu Met Ala Ser Val
355 360 365
Leu Gly Thr Asn Pro His Leu Val Glu Leu Asp Leu Thr Gly Asn Ala
370 375 380
Leu Glu Asp Leu Gly Leu Arg Leu Leu Cys Gln Gly Leu Arg His Pro
385 390 395 400
Val Cys Arg Leu Arg Thr Leu Trp Leu Lys Ile Cys Arg Leu Thr Ala
405 410 415
Ala Ala Cys Asp Glu Leu Ala Ser Thr Leu Ser Val Asn Gln Ser Leu

420	425	430
Arg Glu Leu Asp Leu Ser Leu Asn Glu Leu Gly Asp Leu Gly Val Leu		
435	440	445
Leu Leu Cys Glu Gly Leu Arg His Pro Thr Cys Lys Leu Gln Thr Leu		
450	455	460
Arg Leu Gly Ile Cys Arg Leu Gly Ser Ala Ala Cys Glu Gly Leu Ser		
465	470	475
Val Val Leu Gln Ala Asn His Asn Leu Arg Glu Leu Asp Leu Ser Phe		
485	490	495
Asn Asp Leu Gly Asp Trp Gly Leu Trp Leu Leu Ala Glu Gly Leu Gln		
500	505	510
His Pro Ala Cys Arg Leu Gln Lys Leu Trp Leu Asp Ser Cys Gly Leu		
515	520	525
Thr Ala Lys Ala Cys Glu Asn Leu Tyr Phe Thr Leu Gly Ile Asn Gln		
530	535	540
Thr Leu Thr Asp Leu Tyr Leu Thr Asn Asn Ala Leu Gly Asp Thr Gly		
545	550	555
Val Arg Leu Leu Cys Lys Arg Leu Ser His Pro Gly Cys Lys Leu Arg		
565	570	575
Val Leu Trp Leu Phe Gly Met Asp Leu Asn Lys Met Thr His Ser Arg		
580	585	590
Leu Ala Ala Leu Arg Val Thr Lys Pro Tyr Leu		
595	600	